

Asaph Goor's

Five Fruits of the Holy Land

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The History of the Fig in the Holy Land from Ancient Times to the Present Day

ASAPH GOOR¹

Introduction

The fig (*Ficus carica* L.)² has been cultivated in the Holy Land for more than 5000 years. Its Hebrew name is "te'ena" and it is much the same in other Semitic languages: in Arabic "tin"; in Aramaic "teinta." The Latin is "ficus," most probably from a Hebrew source, from "paga," which means the unripe fruit. The Latin thereupon gives its different names to the fig in European languages: in French "figue"; in German "Feige"; in Italian "fico"; and in Spanish "higo."

Before the fig was domesticated, it grew wild in the Holy Land, and the people chose the best varieties for cultivation. Even today, we often find the wild fig, or cultivated figs that have reverted to a wild state, in rock-crevices along water-courses—along the Jordan River and around the Dead Sea, for instance. Presumably they originate from seeds carried either by man or animal.

In the excavations of Gezer, remnants of figs were found dating back to the Neolithic era (about 5000 B.C.).

De Candolle says: "In our times the fig grows in a wild or semi-wild state over a wide area that has its centre in Syria (and the Land of Israel), that is to say, from Persia and Afghanistan all over the Mediterranean zone as far as the Canary Islands." Other investigators are persuaded

that it had its beginnings in the Arabian Peninsula, in the mountains of Yemen. There is a theory, too, that the origin was in the Mediterranean Basin. The generally accepted view holds to an origin in Western Asia and to a migration from there to the Mediterranean Basin. The roving tribes, it seems, transplanted the fig from place to place by dropping seeds as they ate the fruit. Indeed, Greek and Roman writers, long after, tell of propagating foreign varieties by seeds from the dried fruit. Theophrastus (285–370 B.C.) in his "Enquiry into Plants," Volume II, Chapter I, and Marcus Varro (116–27 B.C.) in his "On Agriculture," Book I, Chapter XLI, both mention this custom.

Jewish Midrashim tell of Noah taking dried figs and cuttings into the Ark: "Rabbi Abba says: (Noah) took dried figs (in with him) . . . and Rabbi Levi says (Noah) took (in) with him . . . fig cuttings. . ." (Bereshit Raba, Chapter 31, 19). The fig is the first fruit tree mentioned in the Bible, in the story of Adam and Eve: "And the eyes of them both were opened, and they knew that they were naked; and they sewed fig leaves together, and made themselves aprons" (Genesis, 3, 7).

Jewish Bible commentators held that the Tree of Knowledge in the Garden of Eden was the fig: "What was that tree of which Adam and Eve ate? Rabbi Yosi says: It was a fig tree . . . the fig whereof he ate the fruit opened its doors and took him in" (Midrash, Bereshit Raba, 15, 8). And "The fig leaf, the leaf which brought remorse to the world" (ibid., 19, 11). The Babylonian Talmud has this: "The tree of which the first man ate . . ." Rabbi Nehemiah says: It was the fig (the Tree of Knowledge), the thing wherewith they were spoilt yet were they redressed by it. As it is said: And they stitched a fig-leaf" (Berahot, 40a; see also Sanhedrin, 70a). And in the non-canonical Book of Adam and Eve, 17, 3, this: "I sought a leaf to cover up my nakedness and found none, for when I ate, the leaves withered

¹ Ministry of Agriculture, Jerusalem, Israel. Rendered from the Hebrew by Max Nurock.

² When we speak of the fig, we have to remember that there also grew in the Holy Land another kind of fig, namely, *Ficus sycomorus* L. The sycamore's fruit is much inferior and cheaper, however close the outward resemblance. It is eaten by the poorer classes and by shepherds in plains where it grows alone. The sycamore was important in olden times, and its wood was used for building, making furniture and coffins. There is much to be said on the subject, but it requires a separate chapter.

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off every tree in my plot except for the fig, and from it I took leaves and it made me a girdle, even from the tree of which I ate the fruits."

The Pre-Biblical Era

The fig is mentioned in Egyptian documents from the days of Snefrou of the Fourth Dynasty (about 2700 B.C.) as a tree on whose fruit the people live; and in all likelihood it also flourished in the Land of Canaan. In a stela of about 2400 B.C., it is said of Uni, an army commander of Pepi I who despatched troops to Canaan to put down a rebellion: "His troops returned in peace after destroying its cities and cutting down the figs and vines." In that campaign, the Egyptians fought the men of Kheriusha, the dwellers on the sands, and the reference is to the Asiatics in the neighborhood of Canaan. (Paul Tresson—"L'inscription d'Ouni.")

The famous Sinuhe Papyrus (1800 B.C.) speaks also of the blessed land of Yaa (Canaan) and of its figs.

The Leningrad Papyrus (1115) of 1800 B.C. includes the tale of a sailor saved from a shipwreck in the Red Sea off the Sinai coast: "I was thrown by a wave onto the shores of an island where I was marooned for three days and on which I found figs and vines and other trees as well" (W. Golenisheff—"Recueil des Travaux").

In the Anastasi Papyrus III, Pibesa describes Pelusium, on the borders of Canaan, to his lord Amenemope, in the reign of Rameses II (1298-1235 B.C.): "And there is a plantation of fig trees" (A. Erman—"Die Literatur der Aegypter," p. 261); the Anastasi Papyrus IV quotes a letter from Amenemope to Pibesa asking him to make ready "grapes, pomegranates, figs and flowers" (ibid., p. 265), and speaks of preparing "figs from Kharu (Canaan), pomegranates and apples" for the king (ibid., p. 266).

In the 3rd and 2nd centuries B.C., the Papyrus of Zenon (59012) lists dried figs, oil, olives, nuts, honey and pomegranates as commodities brought from "Syria." Egyptian records suggest that, throughout the region, idol-worshippers offered wine and figs in sacrifice, which gave both fruits a special sanctity.

The Biblical Period (1200-445 B.C.)

The fig, vine and olive were for many generations the principal fruits. Vine and fig are paired in the Bible, for they were, in fact, planted side by side, the vine sometimes being a climber on the fig.

The fig was widespread: its fruit was cheap, and it provided year-round nourishment—a virtue of considerable economic importance—whether fresh or dried, in single figs or in strings of dried ones, or in cake-form, pressed down and squeezed together like a loaf of bread, and, in shape, either round, beehive or cube. When the people travelled long distances or were besieged, they lived on dried figs. They used the fig for cooking and medicinally. In its shade, they escaped the blazing sun. They burnt its wood for fuel. And it was a symbol of peace: the more it was planted, the greater hope it brought of life everlasting, wealth and happiness.

Areas of Cultivation and Linked Place-Names

The principal areas of cultivation were Sepphoris, Sakhnin and Gush Halav in Galilee, the region of Jerusalem, the plain of Lod, Yavne and Bnei Brak in Judaea, where the fig still excels. It also grew in the Jordan Valley and in the south.

Here is a selection of place names: "Teenath-Shiloh" (the Fig of Siloah) (Joshua, 16, 6); "Almon diblathaim" (Almon of Dried Figs) (Numbers, 33, 46); "Beit-diblathaim" (House of Dried Figs) (Jeremiah, 48, 22); "Beit Pagi" (House of Green Figs) (Tosefta, Menahot, 8, 18; Babylonian Talmud, Pesahim, 63b; Babylonian Talmud, Sota, 45a); "Kfar-Pagi" (Village of Green Figs) (Tosefta, Kelaim, 2, 7); "Pagi Bethany" (Green Figs of Bethany) ("Bethany" stands for beth-te'ena) (Tosefta, Shevi'it, 7, 14); "Bethany" (Matthew, 17, 21). We find, too, "Ein Te'ena" or "Ein Tina" (Spring of the Fig) (Jerusalem Talmud, Taanit, Chapter 4). "Te'enei Beit Hinni or Beit Uni, (in Samaria) ripen early, but they vanished after the destruction of the Temple" (Babylonian Talmud, Pesahim 53a).

When Israel went forth from Egypt and drew near the Holy Land, the spies sent ahead by Moses brought back with them

"pomegranates and figs" (Numbers, 13, 23). In the wilderness, Israel longed for the figs of Egypt: "And wherefore have ye made us to come up out of Egypt, to bring us unto this evil place? It is no place of . . . figs. . ." (Numbers 20, 5). The fig, as we recall, is of the seven blessed species (Deuteronomy, 8, 8), and the Book of Jubilees, 13, 6, tells us: "And he looked and behold it was a good and spacious land and very rich and everything flourished in it, wine and figs and pomegranates."

The parable of Jotham is further testimony of the fig's importance: it rates second to the olive in eligibility for kingship. Judges, 9, 10-11 states: "And the trees said to the fig tree, Come thou, and reign over us. But the fig tree said unto them, Should I forsake my sweetness, and my good fruit, and go to be promoted over the trees?"

The success and value of proper tending are summarized in the adage: "Whoso keepeth the fig tree shall eat the fruit thereof: so he that waiteth on his master shall be honored" (Proverbs 27, 18). The fig's virtue as a foodstuff is emphasized in many a passage: "And they gave him a piece of a cake of figs, and two clusters of raisins: and when he had eaten, his spirit came again to him" (I Samuel, 30, 12); "Then Abigail made haste, and took . . . two hundred cakes of figs" (I Samuel, 25, 18); ". . . brought . . . cakes of figs . . .: for there was joy in Israel" (I Chronicles, 12, 40); ". . . gather ye . . . summer fruits (figs) . . . and put them in your vessels, and dwell in your cities that ye have taken" (Jeremiah, 40, 10); ". . . and she took . . . a bag of bread, dried figs, raisins. . ." (Judith, 10, 5).

The prophets warned Israel again and again: if the people walked not in the path of righteousness, the fig would vanish; if they were pious, it would yield its fruit. "And I will destroy her vines and her fig trees . . . and I will make them a forest" (Hosea, 2, 12); "He hath laid my vine waste, and barked my fig tree" (Joel, 1, 7); "Although the fig tree shall not blossom, neither shall fruit be in the vines. . . Yet I will rejoice in the Lord" (Habakkuk, 3, 17); ". . . and behold a basket of summer fruits (figs). . . The end is come upon my people of Israel; I will not again pass by them any more" (Amos, 8, 1-2).

Restful shade of vine and fig was proverbial of peace, happiness, security, wealth and plenty: "And Judah and Israel dwelt safely, every man under his vine and under his fig tree, from Dan even to Beersheba, all the days of Solomon" (I Kings, 4, 25); "But they shall sit every man under his vine and under his fig tree, and none shall make them afraid" (Micah, 4, 4); ". . . shall ye call every man his neighbour under the vine and under the fig tree" (Zechariah, 3, 10).

The good, well-ripened fig was beloved of the people; the sickly, rotten fig was an image of bitterness and evil: ". . . and as the hasty fruit before the summer (early fig crop); which when he that looketh upon it seeth, while it is yet in his hand he eateth it up" (Isaiah, 28, 4); "I saw your fathers as the first ripe in the fig tree at her first time" (Hosea, 9, 10); ". . . my soul desired the first ripe fruit (of the figs)" (Micah, 7, 1).

A whole chapter of Jeremiah dwells upon the fig that distinguishes between good and evil: "The Lord shewed me, and, behold, two baskets of figs were before the temple of the Lord. . . . One basket had very good figs even like the figs that are first ripe; and the other basket had very naughty figs which could not be eaten, they were so bad. . . .

"Thus saith the Lord of Israel, the God of Israel. Like these good figs. . . . For I will set thine eyes upon them for good and I will bring them again to this land, and I will build them . . . and I will plant them. . . . And I will give them an heart to know me, that I am the Lord, they will be my people. . . .

"And as the evil figs, which cannot be eaten. . . . and I will deliver them to be removed into all the kingdoms of the earth for their hurt to be a reproach and a proverb, a taunt and a curse in all places whither I shall drive them. . ." (24, 1-10); ". . . and will make them like vile figs, that cannot be eaten, they are so evil" (29, 17).

Concerning medicinal uses, we find: "And Isaiah said, Take a lump of figs. And they took and laid it on the boil, and he recovered" (II Kings, 20, 7; see also Isaiah, 38, 21).

The fig often finds use in literary analogy: "And all the host of heaven shall be dis-

solved, and the heavens shall be rolled together as a scroll: and all their host shall fall down, as the leaf falleth off from the vine, and as a falling fig from the fig tree" (Isaiah 34, 4); "All thy strongholds shall be like fig trees with the first ripe figs: if they be shaken, they shall fall into the mouth of the eater" (Nahum, 3, 12).

In the Period of Rome and Byzantium (63 B.C.-636 A.D.)

In the rabbinical literature and the New Testament, as well as in the works of Flavius Josephus, the fig, in its many uses, mundane and metaphorical, is frequently encountered.

The New Testament

"He spake also this parable: . . . Behold, these three years I come seeking fruit on this fig tree, and find none: cut it down; why cumbereth it the ground? And he answering said unto him, Lord, let it alone this year also, till I shall dig about it, and dung it: And if it bear fruit, well: and if not, then after that thou shalt cut it down" (Luke, 13, 6-9); ". . . and the stars of heaven fell unto the earth, even as a fig tree casteth her untimely figs, when she is shaken of a mighty wind" (Revelation, 6, 13).

The New Testament tells of the fig tree that Jesus beheld on the outskirts of Jerusalem in the spring; it was decked in foliage but no fruit was upon it, and he cursed it that it should never again fruit. "Now in the morning, as he returned into the city, he hungered. And when he saw a fig tree in the way, he came to it, and found nothing thereon, but leaves only, and said unto it, Let no fruit grow on thee henceforward for ever. And presently the fig tree withered away" (Matthew, 21, 18-19; Mark, 11, 13-14, tells of the same incident). In the spring, no fig tree in Israel is in bearing; and only a few local varieties bear the early crop (Bakurot). It may also have been a wild tree or a variety which needed caprification.³

³ Figs grew in the Holy Land long before they were known to grow in Greece; most of the varieties fruited without caprification. Later in history the Greeks must have introduced into Palestine varieties which needed caprification, and the fig in the New Testament might have been one of them.

In the works of Flavius Josephus (37-95 A.D.), the fig is referred to as food: "These I was desirous to procure deliverance for, and that especially because I was informed that they were not unmindful of piety towards God even under their afflictions, but supported themselves with figs and nuts" (Life, I, 3) (of the Jews in exile in Rome); ". . . the people of Jerusalem, for whereas a famine did oppress them at that time and many people died for want of what was necessary to procure food, Queen Helena sent some of her servants to Alexandria with money to buy a great quantity of corn and others to Cyprus to bring a cargo of dried figs" (Antiquities of the Jews, XX, II, 5).

In "The Jewish War," III, 10, 8, Josephus talks of the importance of cold and hot units for the development and yield of the various fruit trees, alluding also to the fig and its requirements. His words concern the countryside of Gennesareth, where nature is wonderful and beautiful: so rich is its soil that all sorts of plants thrive well: "for the temper of the air is so well mixed that it agrees very well with those several sorts, particularly walnuts—which require the coldest air—flourish there in vast plenty; there are palm trees also which grow best in hot air; fig trees also and olives grow near them which yet require an air that is more temperate. . . ." He further says: ". . . the kings of all fruit trees the grapes and figs yield continually during ten months of the year. . . ."

Although many kinds of figs were to be found in Italy, Rome imported choice ones from Israel. Pliny the Elder (23-79 A.D.) writes: "In the fig class, Syria (which includes Israel) has the Carians ('caricas' in Latin) and smaller figs of the same class called 'cottana' (perhaps from the Hebrew word 'kattan' meaning little) . . . both now acclimatized in Italy" (Natural History, Book XIII, para. X). In another part of his monumental work (XV, XXI), he says that these two varieties were brought to Italy from Syria by Lucius Vitellius, Procurator of Judaea and Syria in the reign of the Emperor Tiberius, and planted in his farm at Alba.

The Mishna, Talmud and Midrashim, written between 200 B.C. and 600 A.D.,

confirm abundantly how high was the ranking of the fig among the fruits of the Holy Land. "The 'safsu' (a variety of fig) which we ate in our childhood was nicer than the peaches we ate in our old age" (Jerusalem Talmud, Peah, Chapter 7, Halacha 4); "Our son (Sakhat) died for no other reason than that he untimely cut down a fig tree" (Babylonian Talmud, Baba Bathra, 26a); "What do they bring of their choicest fruits to the altar? Figs of the Bnot Shuah variety. Just as sacrifices are dessert for the altar, so are figs for mankind" (Babylonian Talmud, Shevi'it, 12b). "Why are the words of the Torah likened unto the fig tree? What is this fig tree? The more man searches in it, the more figs he finds. Thus are the words of the Torah, the more man studies them, the more wisdom he finds in them" (Babylonian Talmud, Erubin, 54a).

In Bible days, the fig was sanctified and brought as a gift to the Temple, having first, as the Mishna tells us (Bikkurim, 3, 1), been singled out and marked by a wrapping of papyrus in the orchard: "They who are near bring fresh figs and grapes, and those who are far bring dried figs and raisins" (Mishna, Bikkurim, 3, 3).

In the time of the Mishna, the fig tree was very widespread in Judaea. Its lovely green and broad leaves gave an agreeable shade in the hot climate and were an inducement to cultivation. White and black varieties of both cultivated and wild figs were known. There were particularly excellent varieties. Fig trees were planted near houses and in gardens, and, as they grew readily even amongst stones and in the clefts of rocks, parts of the hills were covered by them. The delicate fruit, which one could eat freshly gathered or dried, kept well. It was an article of trade and a source of income for the inhabitants. Tosefta (Erubin 4 (3) 17) speaks of the distribution of dried figs in years of drought.

In the Jerusalem Talmud, various places in the Holy Land where figs were grown are mentioned: "and they said to him that in Tiberias the figs fruit every year. He answered: But in Sepphoris, they fruit every other year" (Jerusalem Talmud, Shevi'it, Chapter 8, Halacha 8); "If he wanted to offer dried figs (to the Temple) and they were 'Ka'ilit' from the Plain of Judaea, he

might bring them. If they were 'Bozrit' from Transjordan he might not" (Jerusalem Talmud, Bikkurim, Chapter 3, Halacha 3); "The Khlosin (a variety of fig) . . . from Edom" (Jerusalem Talmud, Bikkurim, Chapter 3, Halacha 1). Figs were to be found in the neighborhood of Lod, Bnei Brak and Beit Hinni (Uni): "Rabbi Bar Ezekiel was once in Bnei Brak and he saw goats browsing beneath a fig tree, honey was dripping from the fig trees and milk from the goats, and he said this is 'a land flowing with milk and honey'" (Babylonian Talmud, Ketubot, 111b).

Import

Dried figs were imported. For example: "This is the story of Biatos, son of Zonin, who used to bring dried figs by boat" (Mishna, Aboda Zara, 5, 2; also Babylonian Talmud, Aboda Zara, 65b); "They bring dried figs and raisins from abroad" (Tosefta, Shevi'it, 4, 19); "Rabbi Dimi of Hanadra brought dried figs by boat" (Babylonian Talmud, Bara Bathra, 22a).

Varieties

It seems that the Israel fig was, in general, smaller than that of other lands, especially that of Asia Minor, Smyrna and its environs. For instance, we find: "The fig of Israel is only medium-size, compared with the rest of the world" (Mishna, Kelim, 17, 1). Figs were divided into early, middle season, and late ripening varieties: "They estimate the contribution of baskets according to whether they are early ripening, late ripening or middle of season figs" (Mishna, Terumot, 4, 6). There were figs of different colors: black, white, purple, etc. "Some say that black figs are superior to the white, and the others that white are better than the black" (Mishna, Terumot, Chapter 4, Halacha 8). "All the 'Shittin' (which, according to Bertinoro, are wild figs) are exempt from all levy, except the 'Dofra' (variety)" (Mishna, Damai, 1, 1) ('Dofra', again according to Bertinoro, is a variety which fruits twice a year); " 'Bnot Shuah' which fruits three times a year" (once more, according to Bertinoro these are white) (Mishna, Shevi'it, 5, 1); "A man who grows 'Blavsin' or 'Balufsin' will not eat 'Bnot Sheva'" (Mishna, Maasarot, 2, 8). (Today figs of an ex-

cellent variety grow in Israel, called "Sbai"; they might be the "Bnot Sheva".) As to late varieties, one may quote: "Rabbi Yosi used to say: They eat Harehifin' . . . but not 'Sefaniot' " (Tosefta, Shevi'it, 7, 15). Certain varieties were introduced from abroad: "Persian (Iranian) figs which fruit twice in a year" (Mishna, Shevi'it, 5, 1).

General Cultivation

The Babylonian Talmud (Shabbat, 85a) is our familiar source for attributing to the farmers the art of smelling or tasting out the right soil for figs, as for vines or olives: ". . . this soil is good for figs . . . the Havi who smelled the soil . . . used to taste the very earth."

Propagation, Grafting, Planting

Propagation was done by cuttings; sometimes rooting was accelerated and ensured by inserting cuttings in wild bulbs of *Urginea maritima*: "And they planted cuttings (for figs)" (Mishna, Orla, 1, 9); "They do not insert cuttings of figs in bulbs which would chill them" (Mishna, Kelaim, 1, 8). In Tosefta, Shevi'it, 1, 9, we read the following about grafting: "One does not graft fig trees in the seventh year."

It was forbidden to graft a black fig on a white, so the Jerusalem Talmud in Kelaim tells us (Chapter 1, Halacha 7). The tenaciousness and hardihood of the fig are well known traits, and rocks do not defeat it: "The roots of fig trees are soft, yet penetrate the flinty rock" (Jerusalem Talmud, Berahot, Chapter 9, Halacha 3).

About cultivation of the fig grove: "Until when should one cultivate plantations . . . in figs until they obstruct the plow (when the trees are too close)" (Tosefta, Baba Metzia, 9, 18). That irrigation was practised we learn from Mishna, Shevi'it, 2, 4.

Perhaps the most delightful and instructive story of the fig is in the following Midrash: "There is a story about the Emperor Hadrian. He met on his way an old man who was planting fig trees. Hadrian said to him: How old are you now? And the man answered: I am a hundred years old. The Emperor went on: You are an old man of a hundred years and yet you stand there and you toil and you plant trees; do you

expect you are going to eat the fruit of them? The old man answered: Lord Emperor, I am planting now; if I live to eat the fruit of my planting, well and good, and if not, just as my fathers toiled for me, so I toil for my children. Hadrian warred for three years and then he came back. He found the same old man in the same place. What was that old man doing? He was holding a little basket and filling with the first-fruits of lovely figs and he placed them in front of Hadrian, and said to him: My Lord Emperor, take this from your servant. I am the same old man that you found when you went forth, standing and planting, and now the Lord has vouchsafed me to eat the fruits of my planting and here in the little basket are some of them. At once Hadrian said to his servants: Take up the basket from him and fill it with gold pieces" (Tanhuma Kedoshim 8; Midrash, Vayekra Raba, 25, 5; Midrash, Kohelet Raba, 2, 23).

Caprification

In Tosefta, for the first time in Hebrew literature, the process of the caprification of certain varieties is described.⁴ "One does not hang Capri figs on a fig" (Tosefta, Shevi'it, 1, 9) (in other words, except in a fallow or shevi'it year, Capri figs were hung among the branches of cultivated fig varieties which needed caprification).

The Jerusalem Talmud, too, mentions it: "They do not hang Capri figs on a fig tree (in a fallow year). How is it done (in an ordinary year)? The man brings a branch with fruit from a wild (male) fig tree and hangs it on the tree and says unto the tree: This tree (female) produces figs, and the other (male) does not produce"⁵ (Jerusalem Talmud, Shevi'it, Chapter 4, Halacha 4).

⁴ Caprification of figs was learned by the Hebrews from the Greeks. In 350 B.C., Aristotle describes the fig-wasps that come out of the Capri figs and penetrate the unripe figs and fertilize them. Theophrastus discusses caprification in all its details. Pliny devotes a whole chapter to the practice in Italy. It appears that the Romans, too, learned it from the Greeks.

⁵ There were, of course, growers who understood what caprification meant; others practised these invocations as a form of superstition.

Ripening and Picking

Certain early varieties were smeared with oil to hasten ripening: "They oiled the figs, having first pierced them, right until the New Year" (Mishna, Shevi'it, 2, 5). And again the Jerusalem Talmud (Bikkurim, Chapter 1, Halacha 3) says: "Figs are oiled and pierced." The object of the piercing was to allow the oil to seep into the fruit.

Tosefta permits us to explain certain botanical and technical aspects of the fig as they struck the farmer in Israel in those days. He knew all about the development of the fig and how long it took for the fruit to form: "From the time the leaves appear until the young fig is formed is fifty days . . . from the time the fig appears till the fig is fully formed is fifty days. From the time the fig is fully formed till it is ripe is fifty days also. But Rabi says: in each case it is only forty days" (Shevi'it, 4, 20). (See also Mishna, Shevi'it, 9, 67; and Jerusalem Talmud, Shevi'it Chapter 5.) This difference in opinion reflects the area in which the fig trees grew, whether in the Jordan Valley or on the mountains, and the variety.

Every stage of development of the fruit had a special name and each is likened unto stages of womanhood: "Our sages drew similes from woman: 'paga,' 'bohel,' and 'tsemel.' 'Paga' is still a baby girl; 'bohel' are her days of adolescence; 'tsemel' is the mark of her maturity" (Mishna, Niddah, 4, 7). It was a matter of pride that the fig tree fruited year in, year out: "Every other tree fruits one year and is barren the next, but only the fig tree bears each year" (Jerusalem Talmud, Shevi'it, Chapter 1, Halacha 3).

The figs were picked over each day: "They would study the Torah under the fig tree and the owner of the tree would get up early and pick it over every day" (Jerusalem Talmud, Berahot, Chapter 2). The picking of the fruit went on for many months: "Why is the Torah likened to a fig? The reason is that most fruit trees, olive, vine and date, are harvested all at once, while the fig tree is harvested little by little" (Midrash, Bamidbar Raba, 12, 11). "The fig tree is picked over first one by one, and then two by two, and then three by three, until it is eventually gathered in full baskets" (Midrash, Bereshit Raba, 46, 1). "Rabbi Abahu

used to say: This fig when it is harvested in its right season, it is good for it and for the fruit, but when it is harvested out of season it is bad for it and for the fruit. . . . They used to say that the owner of a fig tree knows when it is the exact season for harvesting and accordingly picks it" (Midrash, Bereshit Raba, 61, 5). (Similar reference is to be found in Midrash, Song of Songs Raba, 6, 6.)

The honey-sweetness of the fig is praised: "A story about Rabbi Jonathan, son of Eliezer, who was sitting beneath a fig tree in the summer and the fig tree was full of beautiful fruit. Dew descended and the figs exuded honey. And the wind mingled it with dust. A goat came along and dripped milk into the honey. The Rabbi called out to his pupils and said to them: Come and see this spectacle which is like the world to come, for is it not written? (Joel, 4, 18): And on that day the mountains shall drop down juice, and the hills shall flow with milk" [Tanhuma (Buber edition), Parasha Tezaveh]; "Rabbi Yehuda said to his son from Sikhnin: Go up and bring us dried figs from the barrels. So the son went up and stretched out his hand and he found it full of honey. He said to his father: Father, it is honey! And the father replied: Dip your hand deep into it and you will bring up the dried figs themselves. Likewise Yosi said to his son in Sepphoris: Go and bring us dried figs from the attic. He went up and found the attic absolutely swimming in honey" (Jerusalem Talmud, Peah, Chapter 7, Halacha 4; the same is told in Sifri, Parasha Haazinu, 220, 5, prefaced by the sentence, as applying to Sikhnin and its sister-towns: ". . . and he made him to suck honey out of the rock" (Deuteronomy, 32, 13)); "Rabbi Yohanan was walking one day and saw a man gathering figs. The man left the ripe ones and harvested the unripe. The Rabbi said to him: Are not these, the ripe ones, better? And the man answered: I want them for travelling. The unripe ones keep, the ripe ones do not" (Babylonian Talmud, Hagiga, 5a).

The fig's exceptional fruitfulness is a constant topic. "A story of Rabbi Yosi, whose men would be at work; eventide came and bread had not been brought to them. They would say to the master's son: we are

hungry. They would sit down under a fig tree and the son said to the fig tree: Fig tree, fig tree, give us your fruits that my father's workers may eat. And it gave forth the fruit and they ate" (Babylonian Talmud, Taanit, 24a).

Prices of Figs

Figs were sold either by quantity, by measure or by weight: "The first figs, he who counts them out is fine, he who measures them out is better, and the one who weighs them out is the best of all three" (Mishna, Terumot 4, 6). "Figs were (cheaply) sold at the rate of three to four an 'issar' (1/20th of a dinar)" (Mishna, Maasarat, 2, 5). "He used to go through the market and call out: Buy figs, buy figs!" (Maasarat, 2, 1). "Men used to sit at the town gate or in a shop and call out: Get yourself figs, get yourself figs!" (ibid., 2, 2). (The two preceding passages are strangely reminiscent of the story of the vendor of figs from Caunium crying out his wares in Rome: 'Cauneas, Cauneas (*figus emite*)'—Buy my Caunean figs. This happened as Caesar went by to the Senate on the ill-fated Ides of March; the soothsayers of the Emperor warned him of the omen; for Cauneas, to Roman ears, sounded just like—Cave ne eas! or, in English, Do not go!) "A man who eats dried figs and pays dates for them will be blessed" (Babylonian Talmud, Erubin, 29b; and, likewise, in Tosefta, Terumot, 7, 9).

Drying of Figs

Figs were dried in three ways: singles, called 'grogeret'; in the form of cakes, called 'keziah'; or dried on strings, called 'develah.' Certain fine varieties were dried mainly as singles; those of medium quality in strings; the rest in cake form: "A man who takes over a fig plantation from his neighbour, if it is a place where they used to make 'cakes,' produces only 'keziah,' and, if they used to dry single figs, that is what he does (only dries 'grogeret'), and, if they used to make stringed figs, he goes on making those ('develah') and does not change the method of drying in use" (Tosefta, Baba Mezia, 9, 20); "The one who eats fresh figs on the eve of a holy day and some are left over

puts them (spreads them out) on his roof top to dry" (Tosefta, Yom Tov, 4, 1).

Figs were commonly dried under the trees or on special drying grounds, 'moukzeh' (Mishna, Para, 7, 12). "If he did not pick figs for drying them as single figs, (he) dries them as stringed" (Tosefta, Baba Mezia, 11, 28).

According to Tosefta, Baba, Mezia, 9, 20, we find: "They also used to take dried figs, open them up and put one on top of the other, producing cakes known as 'keziah.' These did not last long and usually became wormy after a short time. They were made into round or square cakes."

In the drying, olive oil was added to the figs, to enrich and preserve them from mould or rot: "Dried figs . . . putting oil on them is forbidden according to one authority, but Rabbi Simon allows it" (Tosefta, Terumot, 8, 19).

Uses of the Fig

The fig, unlike most fruits, was eaten holus-bolus as it was, skin, pulp and pips: "A man who sees a fig in a dream will have his learning preserved. Why is the Torah likened to a fig? All the fruits have something uneatable in them—dates have stones, grapes have their pips, and pomegranates their rinds, but the fig is good to eat in its entirety. So all the words of the Torah have nothing worthless in them" (Yalkut Shimoni, Yehoshua, 247). Figs were likewise used in cooking: "A man puts stringed figs or single dried figs into what is cooking just as he puts spice" (Tosefta, Shevi'it, 6, 6); "People do not put either stringed or single dried figs into a stew of fish because their taste is lost in it" (Mishna, Terumot, 11, 1). In Tosefta, Terumot, 9, 7, we find a different opinion: "A man puts stringed, or single dried figs, into the fish stew just as he would add spice."

Unripened late figs (called 'sifot') were boiled and then eaten: "The 'paga' (unripened early figs) are not cooked, but the 'sifot' (late ripening) may be" (Jerusalem Talmud, Shevi'it, Chapter 4, Halacha 6). In cheese-making, fig sap or dried figs were used: "The man churning the milk to make cheese of it, if he puts in sap of the orla, that is forbidden. So says Rabbi Yehoshua: I heard specifically that if the churner uses

the sap of leaves or of branches, that is in order, but if he uses the sap of unripe figs, that is forbidden, because they are fruits" (Mishna, Orla, 1, 7). The Jerusalem Talmud mentions also the use of the sap of unripe figs and of fig leaves and the milk of ripe figs for curdling (Orla, Chapter 1, Halacha 7). An intoxicating drink could be brewed from dried figs: "Barley beer, fig beer and mulberry beer" (Babylonian Talmud, Pesahim, 107a).

Figs were still, as in biblical times, considered a cure for bodily ills: "... a sick man to whom the doctor prescribed a dried fig" (Babylonian Talmud, Menahot, 64a), and (Aboda Zara, 30b) "if a man eats grapes and figs at night he need not fear (sleeplessness)." In Kohelet Raba, 7, 12, we with figs."

The wood of the tree was burned on the find: "He who gets a stomach-ache is fed altar, and the Mishna (Tamid, 2, 5) tells us that sound fig-wood was chosen for the purpose. For the burning of sacrifices, trees that do not produce smoke or are quickly burnt to ashes, like the olive and the vine, would naturally not be taken, and the Mishna rejects them. Fig wood, which gives embers in plenty, was preferred.

Pests and Diseases

"The sun shone down upon it and the figs were wormy" (Jerusalem Talmud, Berahot, Chapter 2, Halacha 8). Fig-worm, known as 'peh,' is a pest cited in the Babylonian Talmud, Shabbat, 4a, which goes on: "... Rabi says, there are thorns in the figs and he remarked: Worms are here in question." And the Mishna, Baba Bathra, 6, 4: "As regards figs, the buyer is prepared to accept a wormy proportion of not more than one-tenth."

In the Bible there is early allusion to sourness and splitting, and the commentators pick up the tale: "I ... will make them like vile figs, that cannot be eaten, they are so evil" (Jeremiah, 29, 17); "And they split open of themselves just as a fig opens" (Yalkut Shimoni, Tezaveh, 247); "Figs which dried up in their early stage" (Babylonian Talmud, Hullin, 127b); "A fig tree of which the bark is peeling is not plastered with mud" (Tosefta, Shevi'it, 1, 9).

In the Period of Arab Rule (636-1098 A.D.)

The Arabs were immensely fond of the fig and spread it to every land of their wide conquests. Mohammed said: "If I desired a fruit in the Garden of Eden, I would choose the fig."

The explorer Istahari (951), describing Hebron, tells of its mountains clad in olives, figs and sycamores. The Arab geographer Al Maqdisi (985) mentions figs and dates in Ramla, in Yavne "excellent figs known as Damaskin" (apparently a variety from Damascus), and, of the Jerusalem region, he says: "In it God gathered the fruits of the valley and the fruits of the hills, each differing one from the other: the citron, the almond, the date, the walnut, the fig and bananas."

Al Maqdisi differentiates between "Sbai," still familiar and excellent, and "Damaskin" and "Tamri," and observes that dried figs and carobs were shipped from the Holy Land, especially from Ramla. Nazro Kusro, a visitor from Persia in 1047, also praises Ramla's superb "Damaskin," and notes fig cultivation on unirrigated land in Jerusalem. Of Hebron he adds: "There are many villages here with infinite varieties of fruits and trees, some of them are ungrafted, such as the vine, the fig, the olive and the sumach."

The Crusader Period (1099-1291 A.D.)

The Russian Bishop Daniel (1106 A.D.) writes of figs in Hebron, of which Al-Idrissi (1154) remarks: "The city lies between hills and around it there are plantations of olives, figs, sycamores, abundantly loaded with fruits." Raymond d'Agiles, who records a like impression of Hebron, tells, in Book IX, C 51 (circa 1150 A.D.), how King Baldwin, coming to Ascalon, "burnt the wheat fields and uprooted vines, fig trees and all other trees in the surroundings." On the other hand, Geoffrey de Vinsauf (1187 A.D.), speaking of Jaffa, could say: "The Crusader army encamped outside the walls of the city amid olives where the soldiers found fruit in plenty, figs, grapes, pomegranates, citrons. . . ."

William of Tyre, born in Palestine in 1127 A.D and Archbishop in 1173, says of

the capture of Jerusalem: "Although the environs of Jerusalem were mountainous and rocky they were still cultivated and fertile. One could see plantations of olives, figs, vines. . . ."

When Godfrey de Bouillon (1098 A.D.) drew near Jerusalem (see C. R. Conder, "Latin Kingdom of Jerusalem," p. 60), "all around (were) grey stones, brown rocks, a dusty soil, thistles and thorns and a straggling olive grove to north and terraces of figs upon the south—a barren land of naked rocks, waterless and glaring under a cloudless sky—such was the sacred city when they first set eyes upon it from the west." And (*ibid.*, p. 280): "King Richard's infantry reached Jaffa . . . (in September 1191 A.D.). Here the two queens of England and Sicily came into port and the victorious army rested and enjoyed the shade of the gardens and the abundance of figs, grapes, citrons and pomegranates."

Burchard de Mt. Zion (1280 A.D.) saw extensive plantations of figs, olives, and vines at Tyre.

The Mameluke Period (1250–1517 A.D.)

Abu-el-Fida (1321 A.D.), who mentions the use of Dead Sea bitumen to protect fig-trees against insect pests, says of Hebron: "On the mountains and in the valleys there grow olives, figs and carobs . . . the vines, the figs and the olive plantations are among the crops that give the highest income."

Al-Omri (1347 A.D.) describes the Convent of the Cross near Jerusalem: "It is built in the midst of a very ocean of olives, vines and figs." El-Othmani (1372 A.D.) in "The History of Safad" claims that in the region of Acre "you find the very best and most-sought-after varieties of figs."

The monk Felix Fabri (1480 and 1483 A.D.), of Ramla, says: "Here are the sweetest grapes, pomegranates, apples, oranges, lemons, figs, and of all kinds, large and small . . . dried figs as well and almonds and dates." And of Bethany, on the Mount of Olives: "Here in the place where Jesus cursed the fig tree for he found no fruit upon it, I for my part found many fruiting figs. . . . Wherein stood a multitude of fig trees and the boughs of the fig-trees hung over the stone walls . . . we saw large ripe

figs of a dark purple hue." And of Jericho: "Apart from the sycamore, many other fruits grow there including scented (muscat) grapes and a large number of fig trees bearing exceeding sweet fruit."

Mujir ed-Din (1496 A.D.) says of Jerusalem: "It is surrounded by plantations that bear all kinds of fruits, grapes, figs, apples and so forth."

From Turkish Days to the Present Time (1517 A.D. Onwards)

In a letter written from Jerusalem by Rabbi Israel of Firusa (1517–1523 A.D.) we read: "Jerusalem has no meat every day as we have in Italy, nor fish nor fruit except figs and grapes." (A. Yaari, "Letters of the Land of Israel," p. 172). Pierre Bélon (1553 A.D.) reports: "Gaza is an area rich in figs, olives, grapes, apples, pomegranates and vines. . . . On the road between Bab-el-Wad and Jerusalem on the slopes of the hills there grow vines, olives, figs and pomegranates. . . . And in Jerusalem too they grow apples, almonds, figs and olives from which they extract oil. . . . Also Birah, near Ramallah, is prolific in grapes, figs and olives."

The Dutchman, Dr. Leonhart Rauwolff (1575 A.D.), describes the highway between Jerusalem and Bethlehem: "It is very rocky terrain and yet rich in wheat and wine, and crowded with olives and figs. Near Bethlehem is a great valley dense with fruit trees (Artas, the Latin 'hortus,' garden), lemons, citrons, apples, pomegranates and figs."

Rabbi Solomon Meinsterl of Safad, writing in 1607 A.D., is full of wonder: "Even in its desolation the Land produces fruits . . . as much as a third of the whole world put together, and people come . . . from the ends of the earth . . . and they demand . . . olive oil and raisins and dried figs and honey and good soap. . . ." (Yaari, *ibid.*, pp. 199–200).

The English George Sandys (1610 A.D.), also speaking of the same road between Jerusalem and Bethlehem, states: ". . . everybody grew olives and figs. Around Bethlehem there were many fig trees and the Mount of Olives too was simply covered with olives and fig trees." Rabbi Moshe Poriat of Prague (1650) writes: "Fruits of all kinds in abundance, . . . large raisins, carobs and

dried figs . . . the raisins and the figs are soaked in water until they are soft . . . and then they make a very good brandy out of them" (Yaari, "Travels in the Land of Israel," p. 280). M. I. Doubdan (1651 A.D.) says of Jericho: "Near the well there is a large fig tree and in its shade we sat. Jericho by and large is beautiful by reason of the loveliness of the trees that grow there, dates, figs, olives and pomegranates."

Rabbi Gedalia of Semiatyez, who came to Israel in the convoy of Rabbi Yehuda Hassid in 1700, writes: "There is . . . a large number of fruit trees . . . and there are many kinds of figs, as for instance black and white and all other varieties (Yaari, *ibid.*, p. 337).

Thomas Shaw (1722 and 1738 A.D.) mentions that fig-growers in Palestine hastened the ripening by dropping oil into the "eye" of the fig. Richard Pococke (1743 A.D.) says of the environs of Jerusalem: "In the Brook Kidron there are gardens planted with olives, figs, apricots and almonds. This is the pleasantest place in the neighbourhood of Jerusalem." Frederick Hasselquist (1749 A.D.), the famed traveller and botanist, has this to say: "I found some fig trees (at Jaffa) as beautiful as any I have seen in the Levant . . . Jericho was deserted and uncultivated; some fig trees which grew there were wild . . . in the village of Jaffa near Nazareth a garden full of pomegranates and fig trees which the monks have planted. This plantation was the finest which I saw in Galilee on account of its fine young trees."

Van Egmont and John Heyman (1759 A.D. reported of Safad: "The fruits are excellent, especially the grapes and the figs." The Abbé Mariti (1767 A.D.), speaking of "Gadin" near Acre, says: "A valley abounding with excellent fruits such as olives, almonds, peaches, apricots and figs." And of Kolonia (Motza, near Jerusalem): "while the surrounding hills were covered with vines and an abundance of olives and fig trees."

Rabbi David d'Beth Hillel (1824 A.D.) tells that "grapes and figs . . . are sweet and cheap. Figs cost five grushim a kantar . . . dried figs 15 grushim a kantar" (Yaari, *ibid.*, p. 504).

Alphonse de Lamartine (1832) says of the groves of Jaffa: "And in them figs of thirty-two different kinds which shade these en-

chanting spots and furnish food for the table . . . figs as large as walnuts in France." De Lamartine also refers to the presence of figs in the neighbourhood of Acre and Kafr Cana.

Judith, wife of Sir Moses Montefiore, describing the outskirts of Safad in 1839 A.D., writes: "The valleys are full of fruit trees, olives and figs, mulberries and pomegranates." "On the rocky hillside out of which the roads were hewn terraces are made and upon the terraces there are vines and fig trees" (Yaari, *ibid.*, p. 559-65).

John Wilson (1847 A.D.) writes of oleanders, wild figs, poplars, pistachio and mulberry trees growing at Tel-el-Kadi (source of the Jordan River). Dr. Lortet (1884 A.D.) reports of Nazareth: "On the terraces farmers grow enormous figs and olives." And of fruits exported to Egypt, he lists: "oranges, which are much in demand because of their size and sweetness, figs, pomegranates, raisins and other fruits."

Recent Times

After the British occupied the country, in 1920, there were about 20,000 dunams of figs in all, yielding some 6000 tons of fruit a year. The plantations, all on dry-farming land, were made up of a blend of local varieties for eating fresh or for drying. Most of the plantations were in the Arab villages, for they prized the fig as first-class diet all through the year, whether fresh or dried. It is, besides, a tree with very few requirements; it asks very little; it can do well on all types of soil and in various climatic regions; it is not difficult to tend.

Year by year the area expanded, and by 1930 there were over 70,000 dunams with an annual harvest of almost 8000 tons. By 1948 the area, all still in Arab villages, had risen to 124,000 dunams with a yield of 30,000 tons: part of the crop was used to make 4000 tons of dried figs. In the Jewish sector there were only 175 dunams. The Jewish farmer was disinclined to go in for figs, because the fruit sells cheaply, its picking means daily labor in the early hours of the day, it has to be picked day by day; moreover, the fruit is not easy to transport, it goes bad so quickly en route.

The varieties grown for eating and drying were "Moazi," known also as "Hurtemani,"

"Hedari," "Hemadi," "Sbai," and "Shatawi" and, for drying, "Haroubi," "Sfari," "Biadi" and "Himari." Most plantations were of "Biadi," about 30% of the total; "Haroubi" made up 25%, "Sfari" 18%, and "Swadi" 10%. The eating varieties were limited: "Moazi" 8% and "Hedari" and "Shatawi" each 3%.

Yet Jews who were engaged in agricultural research did not lose interest in the fig and introduced new varieties in the hope of finding some way of popularizing it among Jewish farmers. Among the first investigators was the agronomist Aaron Aaronsohn, who established a very important collection from different countries in his experimental station at Athlit. After him, the agronomists A. Ettinger, Joseph Weitz and Amram Hazanov, too, brought in new varieties, and much valuable work was done by the Experimental Stations of the Mandatory Government in cultivating the fig and encouraging its planting.

The Jews were anxious to introduce Smyrna figs, which had a world-wide reputation, and varieties were introduced from Smyrna and from California. Incidentally, in this development, Greek farmer-monks were prominent. It is greatly to be regretted that this splendid fig failed to acclimatize itself in Israel notwithstanding the practice of caprification. Experiments with other varieties were more successful, especially with the Italian "Kaddota," also known as

"Dottato," and, to some extent also, with the "Mission" variety from California and the "Adriatic" from Italy and California.

Only a very small part of the large area under figs (May 1948) was in Arab villages which were included in the new State and where, moreover, the villagers stayed on to care for their trees. Most residual plantations were left ownerless. Thus, the total area in the new State was 24,000 dunams, with a yield of 8000 tons, and 4000 dunams of those were in Arab hands. Because of the fighting and the long spell of emergency, many of the orchards went to ruin, and in 1950 there were only about 15,000 dunams left, with a yield of 4000 tons. At the same time, a destructive insect pest made its appearance, the fig-borer, *Batocera rufomaculata*, which seems to have been introduced in consignments of timber and spread like wildfire. In 1956, there were only 7000 dunams, 65% in Arab villages.

Today, the concentration is in Western and Upper Galilee, and the varieties are: "Sfari" (40%), "Biadi" (20%), "Haroubi" (10%), "Swadi" (15%) and "Hurtemani" (10%).

We may hope that the farmer of Israel will yet revert to the fig and eradicate its pests, and that, when the art of processing for drying and for preserve-making has been fully developed and modernized, there will once more be great orchards yielding what Josephus calls "king of all fruit trees."



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The History of the Grape-Vine in the Holy Land

ASAPH GOOR²

Introduction

The grape-vine (*Vitis vinifera* L.) is mentioned in the Bible and all ancient Hebrew writings as 'gefen,' originating apparently from a verbal radical 'kafan' meaning to bend and curl, in reference to vine stems and tendrils; the Accadian follows with 'gufnu,' as the Aramaic does with 'gufna.' The fruit is, in Hebrew, 'anav,' and in Arabic 'enab.'

The grape-vine, known also as the European vine, has been cultivated in the Holy Land for many centuries. Vines in the wild state have been found in Europe, Greece, Anatolia, Iran and northern India, but in Palestine there is no evidence of wild vines. The Authorized Version of the Bible, translating Isaiah 5, 2, renders 'beoushim' as wild grapes; most Hebrew scholars, however, are of the opinion that the word means 'diseased grapes, mildewed or otherwise affected, and in decay.' There is a third opinion, that it means unripe grapes, or grapes that will never ripen, but in no case does it mean wild grapes.

In France and Italy, fossil vines were discovered back as far as the beginning of the Quaternary Age. Leaves and seeds indicate the existence of another species, mainly *Vitis silvestris*, during the Tertiary in Switzerland, Italy, Britain and Iceland. Seeds found in the middens of lake-dwellings of southern-central Europe prove that the grape has been a human food from the earliest times.

Not a few investigators have assumed that the origin of the European vine and of its culture should be placed in the Middle East at the northern tip of Southwest Asia in the vicinity of the Caspian Sea. The Bible refers to a vine-

yard planted by Noah in that same region on the mountains of Ararat: 'And Noah began to be a husbandman and he planted a vineyard: and he drank of the wine . . . (Genesis 9: 20-21). Nowadays, botanists tend to credit the origin of *Vitis vinifera* to an area extending from Southeast Europe to Western India.

Towards 5000 B.C.—perhaps even earlier—the cultivated European vine (*Vitis vinifera*) migrated from the north through Anatolia to Syria, thence to the Holy Land. The earliest indications of the grape in Palestine are seeds from excavations at Jericho, on a site of the early Bronze Age (3000 B.C.); contemporary seeds were also unearthed in Lachish. Seeds from the Iron Age have been found in many excavations in Israel.

In those primitive ages, the grape-vine was spread and multiplied by cuttings principally, but propagation by seed was not unknown: 'Rabbi Levi said that (Noah) took with him (into the Ark) canes for the planting of vines' (Midrash, Bereshit Raba, 31, 19); 'And he planted a vineyard from seeds which he (Noah) had taken into the Ark' (Midrash, Tanhumeh, 58, 15).

One may conclude, then, that no species but *Vitis vinifera* was cultivated in Israel until recent times. Only in 1890, when Phylloxera made its appearance, were American vines introduced as resistant stocks: *Vitis riparia*, *V. rupestris*, and later hybrids of *V. riparia*, *V. rupestris*, *V. solonis* and *V. Berlandieri*. More recently still, varieties and hybrids of *V. Labrusca* were imported for the making of grape-juice.

The Vine-Grape in Israel in the Pre-Biblical Epoch

The presence of the vine in Palestine is attested in a number of ancient Egyptian inscriptions. On one (2375 B.C.), we read how the Egyptian Military Governor, Uni, in the reign of Pharaoh Pepi I, sent his troops to put down a revolt in Israel, and how his soldiers 'destroyed the fortresses. . . and felled the fig trees and the vines' (Paul Tresson, L'Inscrip-

¹ This article is mainly concerned with grape-growing in the Holy Land. Wine production is mentioned only incidentally. The annals and importance of wine are subjects that call for a separate paper.

² Ministry of Agriculture, Jerusalem, Israel. Rendered from the Hebrew by Max Nurock.

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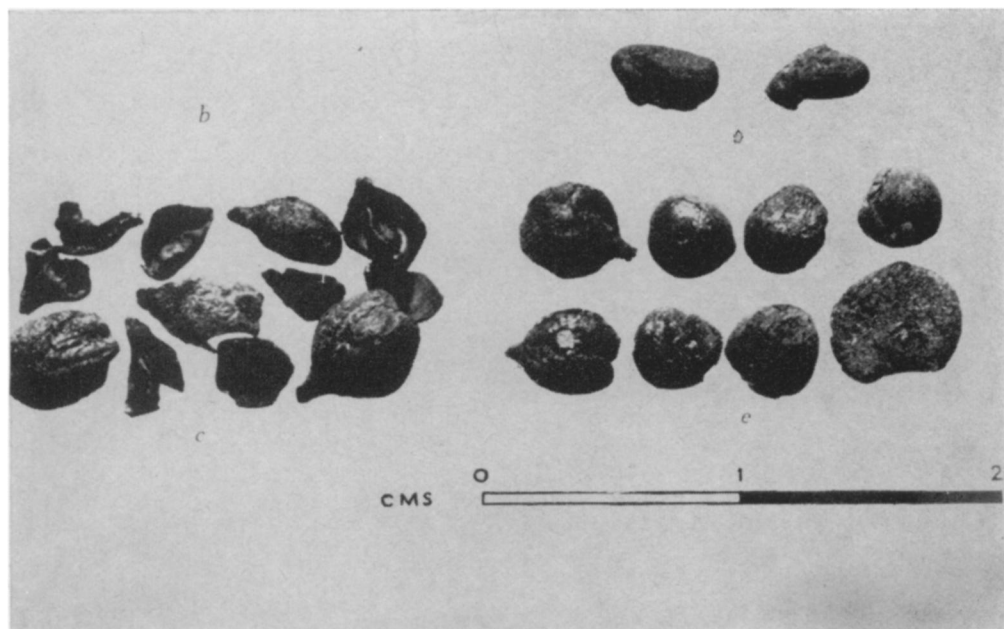


Fig. 1. Grape seeds found in Lachish.

tion d'Ouni, 1919). About the same time (2400–2000 B.C.), the Egyptians imported grain, wine and olive oil, and even incense and perfumery, from Syria and Israel. In the story of Sinuhe, the Egyptian, written about 1800 B.C., there is the following allusion to (Iaa) Palestine: 'It was an excellent country . . . it produced figs and grapes, its wine was more plentiful than water' (James B. Pritchard, *Ancient Near Eastern Texts*).

The chronicles of the travels and military expeditions of Thutmose III (1483–1450 B.C.) speak of the grapes, the raisins and the wine of Palestine, as well as of imports of wine, sweetened with honey, from Palestine. The surrender of Megiddo is thus depicted: 'Their gifts consisting of silver, gold, . . . bringing clean grain, wine . . . for the army of His Majesty'; and again, speaking of the tribute of Retenu (Canaan): '1718 (men)—jars of honeyed wine' (Breasted, *Ancient Records*, Book II).

The lengthy inscription of that same Pharaoh, on the walls of his palace at Karnak (about 1478 B.C.), records: 'And His Majesty saw the land of Djahi (presumably Palestine), all its gardens full of fruit. The wines are stored in cellars and flow like rivers' (Pritchard, *op. cit.*). The mural paintings on tombs 39 and 155 at Thebes, of the reign of Amenophis II

(1450–1425 B.C.), portray 'Apirou' (supposedly the Hebrews) as they press grapes. We may infer from this that the Hebrews of that time were the specialized wine-makers and vintners of Egypt. The inference is strengthened by a further scene illustrating the pouring of wine into jars, with the caption: 'Wine from the vineyard of the Roads of Horus'³.

The perfection of vine-growing among the ancient Hebrews and Isaiah's use of the words 'the choicest vine', pointing to the most careful selection of canes of high quality for the extension of vineyards, are typified in Jacob's blessing (Genesis 49, 11). To his son Judah, he conveys the richness of the Land in vines, wine and milk: 'Binding his foal unto the vine and his ass's colt unto the choice vine; He washed his garments in wine and his clothes in the blood of grapes.'

On the Anastasi I Papyrus, of the reign of Rameses II (1298–1235 B.C.), the graphic phrases are these: 'And when thou shalt arrive at Joppé (Jaffa), thou wilt find the trees clad in greenery as in the best period (spring-time) and thou wilt see the beautiful girl guarding the vineyard' (The Anastasi I

³ Roads of Horus, a point situated near Kantara in Egypt, south of Israel.

Papyrus, Sir Alan H. Gardiner). The Harris Papyrus (500), from the reign of Rameses III (1198–1166 B.C.), divulges that 'the armies of Pharaoh . . . were drunk (with wine) at the end of an hour' (*La prise de Joppé*, G. Maspero, *Contes Populaires*).

The Vine in the Holy Land in the Biblical Epoch (1200–455 B.C.)

The vine, the grape and wine are cited hundreds of times in practically every Book of the Bible. For the vine was exceedingly widespread and valuable in ancient Israel and occupied a place of distinction in its economy. Wine was a popular beverage, drunk on week days as freely as during feasts.⁴ It had its uses in peace and in war. It was mixed with water as a purifier and, in many cases, it was drunk when water was lacking. It was considered an efficacious remedy for intestinal complaints and other ailments. A mixture of wine and oil was a favourite liniment with which to rub the sick. Wine, no less than vinegar, was a medium for the pickling of olives, vegetables and carobs. Red wine was commonly employed for the dyeing of clothes. Even the lowly chores of house-cleaning and floor-scrubbing were performed with a concoction of water and wine or water and vinegar.

Fresh grapes and raisins were accepted articles of diet, grapes in summer, raisins in winter.

Place-names linked with the vine and with wine abound, such as: Abel Kramim (Plain of the Vineyards) (Judges 11: 33), Beit Hakerem (House of the Vineyard) (Jeremiah 6: 1), Enav (the Grape) near Hebron (Joshua 11: 21), Nahal Eshcol (Brook of the Cluster) (Numbers 13: 23), Nahal Sorek (Brook of the Vine Tendril) (Judges 16: 4), and Mount Carmel (Hill of the Vineyard of the Lord) (I Kings 18: 19), Carmel (I Samuel 25: 2), and Gafna (Josephus, Wars I, 11, 2). Tosefta, Ahilot, 18, 16, has Beth-Gufnin (House of Grapes); Tur-Karem (Mount of the Vineyard), modern Tulkarm, appears in 'Sefer Hashomronim' (the Book of the Samaritans,

page 93); Mount Carmel figures also as Carmelum in Pliny, Book V, 19, 2, and is mentioned similarly by Tacitus, *Historia*, Pt II, 78, 3. St. Jerome, too, refers to Eshcol (*Epistola*, 108).

Vineyards, as these many place-names affirm, flourished in all regions of Israel at that period. They were to be found everywhere: in the mountains of Hebron and Galilee; on the plain; in the Negev (Edom); at Ein-Gedi on the western shores of the Dead Sea; in the land of Ephraim: 'Is not the gleanings of the grapes of Ephraim better than the vintage of Abiezer?' (Judges, 8, 2); in the region of Siloh: ' . . . then come ye out of the vineyards, and catch you every man his wife of the daughters of Shiloh, and go to the land of Benjamin' (Judges 21: 21); in the neighbourhood of Beit-Shemesh: 'Then went Samson down, and his father and his mother, to Timnath, and came to the vineyards of Timnath' (Judges 14: 5); in the Valley of Jezreel: 'And it came to pass after these things, that Naboth the Jezreelite had a vineyard, which was in Jezreel' (I Kings 21: 1); and in Samaria: 'Thou shalt yet plant vines upon the mountains of Samaria, the planters shall plant and eat them as common things' (Jeremiah 31: 5).

King David had stewards exclusively for his vineyards and wine-cellars: 'And over the vineyards was Shimei, the Ramathite: over the increase of the vineyards for the wine cellars was Zabdi, the Shiphmite' (I Chronicles 27: 27).

The grape and wine are featured in descriptions of the Holy Land as early as the era of the Patriarch Abraham (1700 B.C.): 'And Melchizedek, King of Salem (Jerusalem), brought forth bread and wine . . .' (Genesis 14: 18). Joseph, who was born in Canaan and spent his youth in an area of vineyards, was competent to interpret the dream of Pharaoh's chief butler: 'In my dream, behold, a vine was before me and in the vine were three branches and it was as though it budded and her blossoms shot forth and the clusters thereof brought forth ripe grapes . . . and I took the grapes and pressed them into Pharaoh's cup' (Genesis 40: 10–11). Here, in truth, we detect the accents of a childhood spent near and around the vine.

When, at the end of the Exodus from Egypt, the Jews at last entered the Promised Land, they found in it many a vineyard: 'And houses full of good things, which thou filledst not, and

⁴ Many types of wines were mentioned in old Hebrew writings. In the Bible, we find the names of ten types, while in later literature (Mishna–Talmud), at least seventy names appear—presumably of different types.



Fig. 2. Sennacherib's army, archers, slingers and spearmen, advancing among low trees and vines from relief in Nineveh.

wells digged, which thou diggedst not, vineyards and olive trees, which thou plantedst not; when thou shalt have eaten and be full;' (Deuteronomy 6: 11). With seven species the Holy Land was blessed. In that chosen category, the vine also figures: 'A land of wheat, and barley, and vines, and fig trees, and pomegranates; a land of oil olive, and honey;' (Deuteronomy 8: 8).

During the wanderings of the Israelites in the Wilderness of Paran, Moses wisely sent his spies ahead into Canaan; and they brought back with them a cluster of grapes of exceptional size: 'And they came unto the brook of Eshcol, and cut down from thence a branch with one cluster of grapes, and they bare it between two upon a staff;' (Numbers 13: 23). Settling in Canaan, the Israelites began at once to cultivate the vineyards that they found there and to plant new ones: 'Thou shalt plant vineyards, and dress them' (Deuteronomy 28: 39).

The Israelites were fond of fresh grapes, and they were, besides, adept at making by-products of various sorts, such as raisins, wine, fermented liquors and vinegar, although the

inference is that alcoholic drinks, and even vinegar, were not wholly countenanced by authority. We find in Numbers 6: 3 4, the following: 'He shall separate himself from wine and strong drink, and shall drink no vinegar of wine, or vinegar of strong drink; neither shall he drink any liquor of grapes, nor eat moist (fresh) grapes, or dried.' 'All the days of his separation shall he eat nothing that is made of the vine tree (grape-vine), from the kernels (seeds), even to the husk.' We must suggest, however, that these prohibitions were particularly, if not exclusively, enforced during ascetic abstinence vowed by those whom we call Nazarites.

In the time of the Judges and the Kings, the vine represented the economic wealth of the country. There is the parable of Jotham: 'Then said the trees unto the vine, Come thou, and reign over us. And the vine said unto them, Should I leave my wine, which cheereth God and man, and go to be promoted over the trees?' (Judges 9: 12-13).

More than that, the vine was a symbol of peace, tranquillity and security: 'And Judah and Israel dwelt safely, every man under his

vine and under his fig tree, from Dan even to Beersheba' (I Kings 4: 25). On days of rejoicing and on ho'y days, the people rejoiced by nibbling raisins and quaffing wine: ' . . . brought bread on asses . . . cakes of figs and bunches of raisins, and wine, and oil . . .; for there was joy in Israel (I Chronicles 12: 40).

In brilliant phrases, Isaiah (Prophet of the Vine) describes the rightful method of tending a vineyard, even if it fails to respond to the tending:

'Now will I sing to my well beloved a song of my beloved touching his vineyard. My well beloved hath a vineyard in a very fruitful hill: And he fenced it, and gathered out the stones thereof, and planted it with the *choicest vine*, and built a tower in the midst of it, and also made a wine press therein: and he looked that it should bring forth grapes, and it brought forth wild grapes.⁵ And now, O inhabitants of Jerusalem, and men of Judah, judge, I pray you, betwixt me and my vineyard. What could have been done more to my vineyard, that I have not done in it? Wherefore, when I looked that it should bring forth grapes, brought it forth wild grapes?⁵ And now go to; I will tell you what I will do to my vineyard: I will take away the hedge thereof, and it shall be eaten up; and break down the wall thereof; and it shall be trodden down: And I will lay it waste: it shall not be pruned, nor digged but there shall come up briers and thorns . . .' (5: 1-6).

Isaiah gives us other technical details. He speaks of the irrigation of vineyards (27: 2-3): 'In that day sing ye unto her. A vineyard of red wine. I the Lord do keep it; I will water it every moment: lest any hurt it, I will keep it night and day.' And, again, mention of irrigation of vineyards (16: 9-10): 'Therefore I will bewail with the weeping of Jezer the vine of Sibmah: I will water thee with my tears . . . And gladness is taken away, and joy out of the plentiful field; and in the vineyards there shall be no singing, neither shall there be shouting: the treaders shall tread out no wine in their presses; I have made their vintage shouting to cease.' Isaiah also speaks of the pruning of the vine (18: 5): 'For afore the harvest, when the bud is perfect, and the sour grape is ripening in the flowers—he shall both cut off the sprigs

with pruning hooks (?shears) and take away and cut down the branches.' With the viticulturists, the Prophet bewails the bad years: 'The new wine mourneth, the vine languisheth, all the merry-hearted do sigh' (24: 7). For the vineyard was the greatest treasure of the people. Here is what Isaiah has to say (32: 9-12): 'Rise up, ye women . . . give ear unto my speech; Many days and years shall ye be troubled . . . for the vintage shall fail, the gathering shall not come . . . They shall lament for . . . the fruitful vine.' And, at the last (32: 15), the vineyard becomes for him a symbol of plenty: 'And the wilderness be a fruitful field' (the Hebrew text has 'Carmel'—a vineyard of God).

To the Prophet Amos, likewise, the vine is emphatically a symbol of prosperity and plenty: 'And I will bring again the captivity of my people of Israel . . . and they shall plant vineyards, and drink the wine thereof . . . And I will plant them upon their land and they shall no more be pulled up out of their land which I have given them, said the Lord my God' (9: 14-15). The Prophet Joel, too, foresees the golden future as one where: 'the vats shall overflow with wine and oil' (2, 24). In Jeremiah 6: 9, there is the prophecy: 'Thus saith the Lord of hosts, They shall thoroughly glean the remnant of Israel as a vine: turn back thine hand as a grapegatherer into the baskets'; and a third verse from Jeremiah: 'O vine of Sibmah, I will weep for thee with the weeping of Jezer . . . and I have caused wine to fail from the winepresses: none shall tread with shouting, their shouting shall be no shouting' (48: 32-33).

The Prophet Ezekiel often likens the well-being of the people of Israel symbolically to the luxuriance of the vine. Here is a magnificent example: 'And it grew, and became a spreading vine of low stature, whose branches turned toward him, and the roots thereof were under him: so it became a vine, and brought forth branches, and shot forth sprigs. There was also another great eagle with great wings and many feathers: and, behold, this vine did bend her roots toward him, and shot forth her branches toward him, that he might water it by the furrows of her plantation. It was planted in a good soil by great waters, that it might bring forth branches, and that it might bear fruit, that it might be a goodly vine' (17: 6-8). Again there is unmistakable allusion to the irrigation of vineyards.

⁵ The Hebrew original 'beoushim' means, as explained, unripe or rotting grapes, not wild grapes.

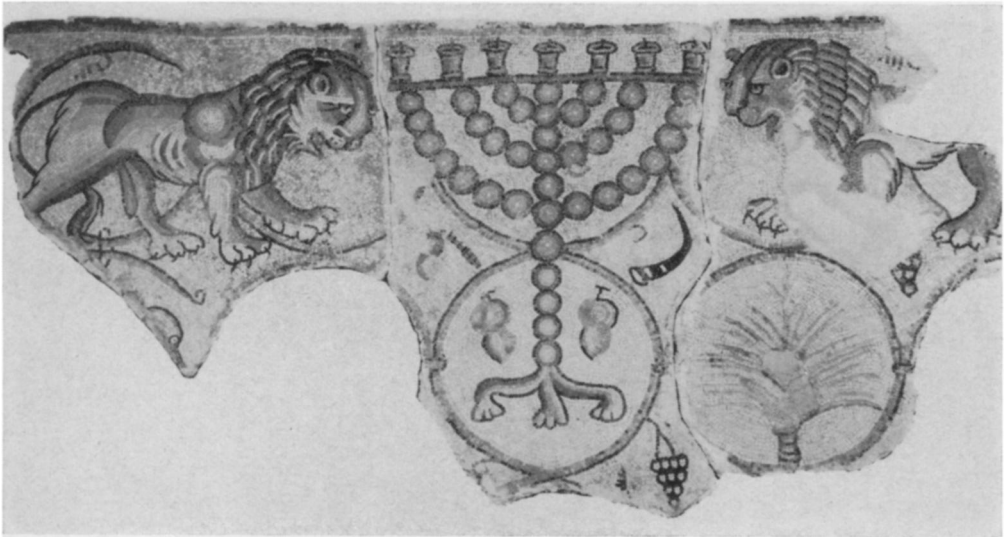


Fig. 3. Lions flanking seven branched candelabrum and the Jewish ritual symbols from the mosaic floor of a 6th Century A.D. synagogue at Maon (Nirim).

Ezekiel gives us the uses of the wood of the vine (15: 2-4): 'What is a vine tree more than any tree? . . . Shall wood be taken thereof to do any work? or will men take a pin of it to hang any vessel thereon? Behold it is cast into the fire for fuel.' Thus, we learn that, once the vine was uprooted, or broken, or pruned, its only use was for fuel.

The extent of vine-growing in the Holy Land is attested by Psalms 80: 8-15: 'Thou hast brought a vine out of Egypt; Thou hast cast out the heathen, and planted it. Thou preparedst room for it and didst cause it to take deep root, and it filled the land. The hills were covered with the shadow of it. And the boughs thereof were like the goodly cedars. She sent out her boughs unto the sea (rivers) and her branches (?roots) unto the water.' This illustrates how the Hebrews cultivated the land on the mountains and how the vine spread out above on trees and below its roots reached out to water.

In the period of the Second Temple, in the days of the Prophets Haggai and Zachariah, the vine once more stood for peace and plenty: ' . . . shall ye call every man his neighbour under the vine and under the fig tree' (Zachariah 3: 10); 'Is the seed yet in the barn? yea, as yet the vine, and the fig tree, and the pomegranate, and the olive tree, hath not

brought forth: from this day will I bless you' (Haggai 2: 19). Nehemiah (445 B.C.) was as expressive: 'In those days saw I in Judah some treading wine presses on the Sabbath, and bringing in sheaves, and lading asses; as also wine, grapes and figs . . . which they brought into Jerusalem . . .' (13: 15).

The hegemony of Greece (332-142 B.C.). Strangely enough, Greek governors and travellers only seldom describe the nature and husbandry of the Palestine of their age. Among the numerous writings on farming and history in Greek of that period references to viticulture and wine-making in Palestine are few and far between. This may reflect Greece's own richness in wine and raisins and a consequent disinterest in the grapes of Judaea. We do, however, find in Herodotus (484-425 B.C.): 'Shipments of wine in oriental jars were made to Egypt twice a year from all the wine-producing countries, including Phoenicia . . .' (Persian Wars, 3, 6); and the Letter of Aristeas (277-270 B.C.) enlarges on the topic a little 'In truth, they [the Hebrews] love to till the soil, and their land abounds in olive trees, corn and vegetables, as well as a great quantity of vineyards, grapes and honey and fruit trees of the other kinds, and countless date-palms . . .'.

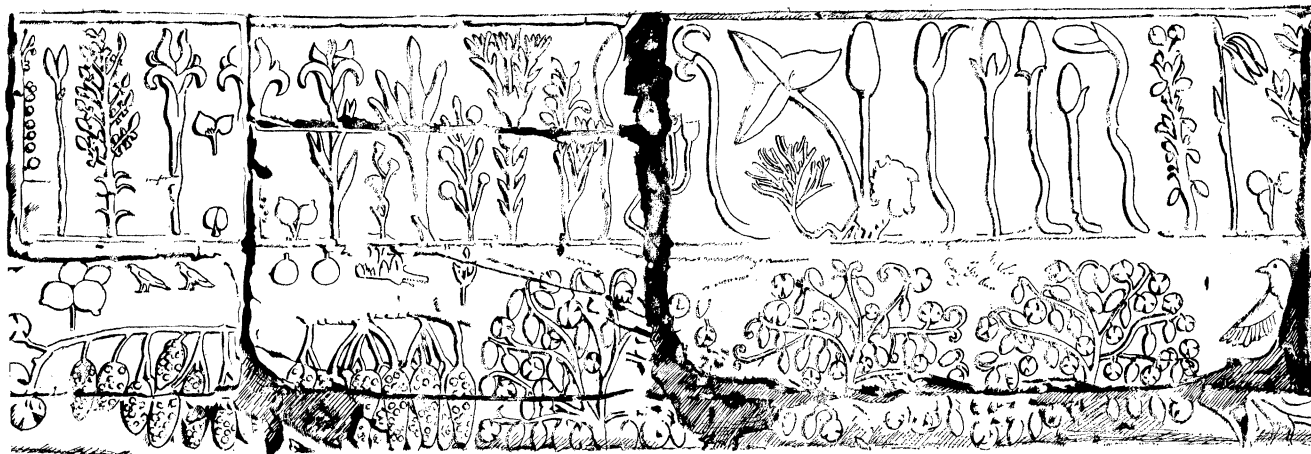


Fig. 4. Grape clusters. Fruits and plants imported into Egypt from Canaan.

The rule of Rome and Byzantium (63 B.C. –A.D. 636). The fertility of the Holy Land is a frequent motif in Roman literature. Contemporary farmers and historians, who either visited the country themselves or were informed about it by the generals or proconsuls, recorded its agrarian wealth. The poet Horatius Flaccus praises the wines of the Holy Land (Odes 1, 31). The words of the poet are these:

*'Premant Calena falce, quibus dedit
Fortuna, vitem: dives aureis
Mercator exsiccet culullis
vina Syra reparata merce.'*

'Let those upon whom Providence hath bestowed the vine harvest its clusters with Sabine sickle; let the rich merchant drain from his golden goblets wines bought by merchandise the Syrians favour.' An ancient commentator on the passage remarks that the wares were brought from Arabia into Syria, (meaning Israel as well) on camel-back.

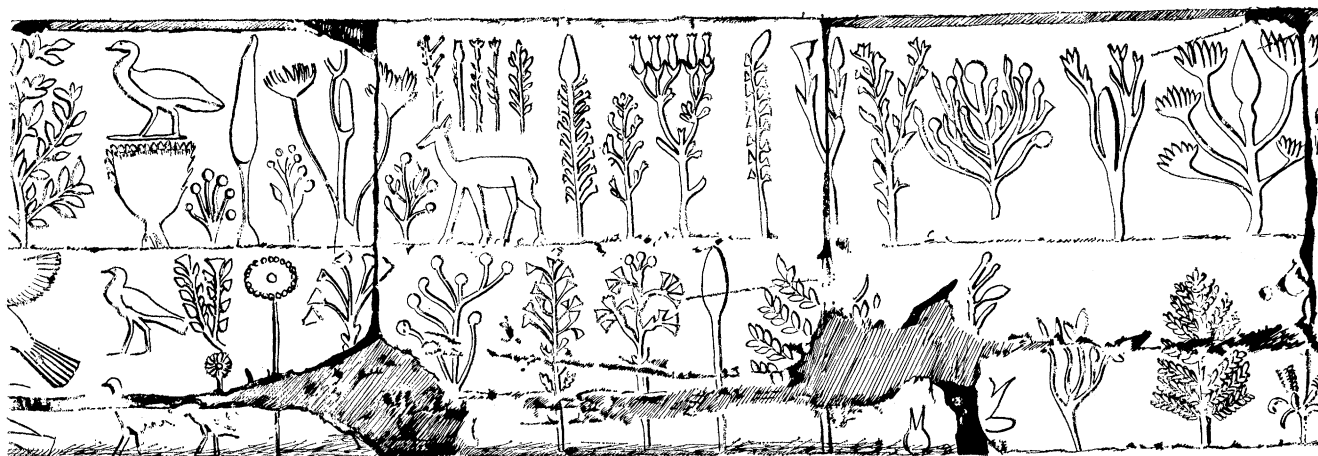
In the New Testament, we find a majestic analogy: 'I am the true vine and my Father is the Husbandman. Every branch in me that beareth not fruit he taketh away: and every branch that beareth fruit, he purgeth it, that it may bring forth more fruit . . .' (St. John 15: 1); 'Thrust in thy sharp sickle, and gather the clusters of the vine of the earth; for her grapes are fully ripe' (Revelations 14: 18).

There is, too, the use of the parable from

the familiar rural scene: 'There was a certain householder, which planted a vineyard, and hedged it round about, and digged a winepress in it, and built a tower . . .' (St. Matthew 21: 33); 'A certain man planted a vineyard, and let it forth to husbandmen, and went into a far country for a long time. And at the season he sent a servant to the husbandmen, that they should give him of the fruit of the vineyard; but the husbandmen beat him, and sent him away empty . . . And again he sent a third: and they wounded him also, and cast him out. Then said the lord of the vineyard, What shall I do? . . .' (St. Luke 20: 9-13).

The historian Josephus Flavius (A.D. 37-95) knew a Palestine prolific in fruit and renowned especially for its vines and its figs. He mentions viticulture in Galilee as follows: ' . . . and producing all kinds of fruits and its plains are planted with trees of all sorts, while yet the olive, the vine and the pomegranate are chiefly cultivated there' (Wars III). The area of Gennesareth, on the shores of Lake Tiberias, was, for him, ' . . . of soil that yields all these several kinds of fruits in wondrous manner, and beyond that it preserves them throughout the year. The kings of all the fruit-trees, the vine and the fig, yield their fruits for nine continuous months of the year and the other fruits go on ripening with them one after the other all through the seasons' (Wars III).

We must, in conclusion, recall that, after the destruction of the Temple, despair overtook the Hebrews, as we learn from the vision of



From the Temple of Amon built by Thutmose III at Karnak (15th Century B.C.).

Baruch the Syrian (A.D. 100); 'Farmers! Do not sow again, and thou, O earth, why shouldst thou give thy yield. No, hold fast in thy bosom the oil of thy harvest. And thou, O vine, why shouldst thou yet give thy wine now that they no longer sacrifice of it to Zion?'

Grape-growing in the Holy Land in Post-Biblical Days

As one might expect, Hebrew literature after the Bible—the Mishna, Tosefta, Jerusalem and Babylonian Talmuds and the various Midrashim, covering a period of writing from 200 B.C. to A.D. 400—offers a mass of information concerning the vine in the Holy Land. It speaks of the cultivation of vineyards, of the production of wine and its importance and of the making of raisins and other products of the grape.

How significant the grape-vine was to the early Jews is plain from the Mishna, discussing the symbol of the golden vine that adorned the Temple in Jerusalem: from that, one can infer the exceptional value of the vine and of its products to the people of Israel: 'A golden vine festooned the entrance to the Temple and its canes were held up on trellises. Everyone who wishes to make an offering of a leaf or a berry or a cluster of grapes brings it and hangs it on this vine' (Mishna, Middot, 3, 8).

And indeed the vine-growers of Israel were accustomed to offer the best of the first fruits of their fields to the Temple: 'Those who came

from nearby brought fresh figs and grapes, and those who came from far off offered dried figs and raisins' (Mishna, Bikkurim, 3, 3).

The Jerusalem Talmud, Bikkurim, Chapter 1, Halacha 3, on the question of the propriety of vine offerings to the Temple, strictly enjoins that only choice and sound grapes were allowable, free from plant disease or insect pest, and untreated by spraying or dusting: 'One does not offer grapes that have been smoked or dusted. One brings white grapes and grapes of good quality.' After the fall of the Temple, and the expulsion of so many of its Jews from Israel, vineyards were abandoned and destroyed: 'Formerly grapes were plentiful . . . nowadays there are not many' (Jerusalem Talmud, Damai, Chapter 1, Halacha 1). Nevertheless, for a long spell of years, until the Arab overran the Holy Land, numerous vineyards were still to be found: they were more common in Judaea, less frequent in Galilee, as contrasted with the olive. 'In Galilee, wine was preferred to olive-oil' (Babylonian Talmud, Nazir, 31b); and in the Mishna and Tosefta there is more than one mention of vineyards in Judaea and Galilee. For instance, Beit-Hakerem near Jerusalem is recorded in Mishna, Middot, 3, 4, and in Tosefta, Niddah, 3, 11. The vines of Abel in Galilee were, it seems, of special merit: 'One eats of the grapes until the end of the summer, one eats them, indeed, as long as there are clusters on the vines of Abel' (Tosefta, Shevi'it, 7, 15).

One may surmise that the late ripening grapes came from Galilee, the early grapes from the Jordan Valley, as well as from Ein-Gedi on the western shores of the Dead Sea, for the Midrash tells us (Yalkut Shimoni, Part 2) that the vineyards of Ein-Gedi produced four to five times a year. The Mishna also (Menahot, 8, 6) points to the regions where the best wine-making grapes were grown: 'Kerutim and Hatoulim were alpha (first class) for wine (both are points in Judaea); second to them are Beit-Rima and Beit-Lavan in the mountains of Samaria and Kfar Signa in the valley' (in Lower Galilee).

It has been observed earlier that vines were generally raised from cuttings. In some cases, however, they were propagated by layering: 'One who layers the vine in the ground' (Mishna, Kelaim, 7, 1). The growers would make certain of the rooting of cuttings to be planted later in the vineyards and would hasten it by inserting them for a time in watermelons or pumpkins. The melon or the pumpkin would supply the embedded cutting with water; it may even be that it was thought to have some power of inducing growth. Thus Mishna, Kelaim, 1, 8 says: 'One is not permitted to insert a vine cutting into a watermelon which would inject its moisture into it,' a quotation hinting that the practice described was not looked upon with general favour in that epoch. All the same it was not discarded, for all that Mishna, Kelaim, 7, 1 is at pains to declare that 'Even the layering (of a vine-cane) into a pumpkin (is forbidden).' The pundits of the times preferred, and again Mishna, Kelaim, 7, 1 is our authority, that the vine-cane could be layered into pots.

Growers were well aware—and the blessing of Jacob and the words of Isaiah which have been cited would remind them—how important it was to select the best cuttings for multiplying their vines: 'A man will always sell all he possesses to marry the daughter of a scholar and do the same to marry off his own daughter. It is like the vine grapes: a good choice (of cuttings) gives lovely fruits. While to marry the daughter of an ignoramus is as though, instead of choosing vines, one planted brambles. Their fruit is ugly and unpleasing' (Babylonian Talmud, Pesachim, 49a).

Many were the varieties of grape cultivated in Israel at that time. But references to the names of varieties in the Bible, the Mishna and other early writings are regrettably few.

We do find in the Mishna (Niddah, 9, 11): 'Virgins are like vines: certain vines give red wine, other vines give black wine. There are vines that give much wine and others give little. Rabbi Yehuda said: Every vine has wine in it. The vine which has none is known as Dorakti (a dry grape).'

The horticulturists of Israel were experts in adapting different trees to different soils. They knew those soils which were best for planting olives and those on which it was preferable to plant vines. 'This one is the soil for the olive trees, this one is the soil for vines, and this third one for the fig trees . . . The Hurites used to smell the smell of the earth, while the Hivites . . . they used to lick it like snakes' (Babylonian Talmud, Shabbat, 85a). The people of Israel were well acquainted with the damage that soil erosion could do, and there are many quotations to bear this out. In the Bible, to start with, we find, in Proverbs 28: 3: '. . . is like a sweeping rain [in Hebrew, an eroding rain] which leaveth no food (bread)', meaning that once the soil was eroded by torrential downpour then there were no crops.

The Prophet Ezekiel curses the people of Tyre in this language: 'I will also scrape her dust from her [the Hebrew version uses terms which are strictly translatable as 'erode her soil'] and make her like the top of a rock' (26: 4); and, eight verses later, the Hebrew phrases signify the eroding of Tyre's soil into the sea: '. . . thy timber (trees) and thy dust (soil) in the midst of the water [will be washed into the water, here meaning sea].'

And, then, there is much allusion in commentary, to mark the moral of preventing erosion, especially in hill country where vineyards were wont to be set out. For example: 'All the days of a poor man are bad . . . His roof is the lowliest of roofs, and his vine grows on the top of the mountains. The rainwater runs off all roofs on to his (roof) and the soil of his vineyard is eroded down unto the other lower vineyards' (Babylonian Talmud, Sanhedrin, 100b). It is difficult to think of a more graphic way of describing the wretchedness of a vine-grower whose planting is on the crest of a hill, whence the rains wash his soil away unto alien vineyards below to nourish them, baring his own.

As one measure of precaution, the vine-growers of the day would plant on terraces specially constructed for that purpose and took

particular care that the terraces would not be located in gullies: 'One plants (vines) one in the plain land and one on the terrace' (Mishna, Kelaim, 6, 2); or 'One does not build terraces in the mouth of the ravines' (Mishna, Shevi'it, 3, 8).

Then we find much space devoted to the actual cultivation of the vineyard: clearing away stones, hoeing, manuring, making basins for irrigation, and the sundry aspects of pruning, such as thinning branches, shortening canes, shaping vines and topping them for regeneration. And, furthermore, wrapping (for protection against sun or cold), dusting, smoking, coating against plant diseases and insect pests. All this is recorded in Mishna, Shevi'it, 2 3-4 and 4, 6. Mishna, Peah, 7, 5 mentions thinning out the clusters so as to get better grapes. The different shapes and forms in which vines had to be trained in various parts of the Holy Land for higher yields, firmer and healthier clusters and well coloured berries were matters of everyday knowledge. The vines were trained upon the ground, on terraces, along walls, over trellises, on living trees and on man-made pergolas. Mishna Kelaim has many such allusions: in 6, 1: 'One plants a row of five vines besides a wall, which is high' [so that it should climb and get the sunshine]; in 6, 3: 'One makes the vine creep on trellises'; in 6, 4: 'One makes the vine creep on trees' [especially figs or sycamore-figs]; and in 6, 9: 'One trains canes of vines from one tree to another.' Mishna, Sukkot 1, 4, has this: 'One trains the vine on a sukka [a pergola].'

That pruning of the vines was a complicated process, and that various methods were employed, is evident from Tosefta, Shevi'it, 1, 11: 'They prune, they twist, they ring, they pinch and cut back.'

Irrigation was not customary. Only in certain cases were vineyards irrigated and then water-use was rigorously controlled. Mishna, Moed Katan, 1, 1, is our spokesman here: 'They allowed (the vine-grower) to water from springs, but one waters neither from rainwater nor from the water-wheel. One does not make basins around the vines.'

In the Midrashim, much is written of the grape-vine and its products, and a few examples will serve: 'What is this vine? One does not plant the vine in a medley. It must be planted row by row'; 'What is this vine? At the beginning, the product of the vine is

trodden with mortal feet. Afterwards, it is served at the table of kings'; 'What is this vine? The vine is the lowliest of trees, yet dominates all trees' (Midrash, Vayikra Raba, 36, 2). And, in the same text: 'What is this vine? The deeper you dig the soil beneath it, the more it improves'; 'What is this vine? One does not plant it among big stones. One digs deeply down and then one plants it'; and 'What is this vine? It is (moist) full of sap, but it is trellised on supports of dry wood.'⁶

The physiology of the vine and the value of the leaves in the procurement of higher yields was understood: 'The clusters will pray for the welfare of the leaves, for, without the leaves, the clusters would not exist at all' (Babylonian Talmud, Hullin, 92a). And there was accurate identification of the various insect pests: 'bookworms, silkworms, grape-berry-moth, figworm, pomegranate-butterfly—all of them injurious' (Babylonian Talmud, Shabbat, 90a); and 'the worm at the heart of the olives and at the heart of the vines' (Babylonian Talmud, Hullin, 67b).

The vine was regarded as yielding its full yield as from its fifth year: 'What is a (productive) plantation? Vines aged five years

⁶ Much wise and practical advice of the same kind on the cultivation of the vine is given in the writings of famous agronomists, such as Lucius Columella (1st century B.C. in his *De Re Rustica* (see Book I, I, 13, Book III, xv, 3-4, Book V, v, 4) on the planting of vines by the epic poet Vergil (*Georgics* II, 348 treating of the planting and manuring of vines, by Varro (116-37 B. C.), by Pliny (A.D. 23-79), and others. All of the passages in question are quotations from, or echoes of, the greatest author on husbandry in antiquity, Mago the Carthaginian, who lived about 500 B.C. and compiled no fewer than 28 books on farming in Phoenician (Punic), a language akin to Hebrew: any man of Jerusalem in those days spoke the same dialect as did the man of Tyre. Although he lived in Carthage and was its principal counsellor in matters of agriculture, Mago knew the farming ways of Israel and Phoenicia well and was probably familiar with all the sayings of the farmers in those countries as they are reflected in the Mishna and the Talmud.

The books of Mago were translated into Latin and Greek, but unfortunately none seems to have survived. All we possess are brief excerpts in the works of the Roman writers who knew his books and accepted his teachings.

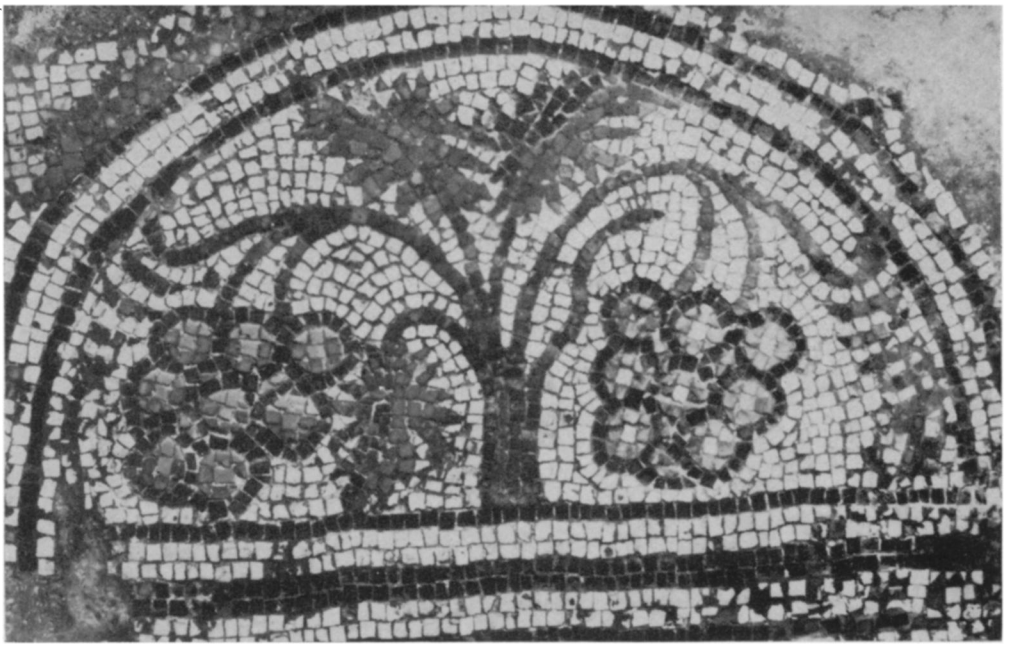


Fig. 5. Mosaic pavement from the Synagogue of Naaran (North of Jericho) 6th Century A.D.



Fig. 6. Basket of grapes from the mosaic floor of the 6th Century A.D. Synagogue at Maon (Nirim).

figs aged six and olives aged seven' (Tosefta, Shevi'it, 1, 3). The clusters were large, as we learn from Jerusalem Talmud, Peah, Chapter 7, Halacha 3, and also in Babylonian Talmud, Ketubot, 112a; 'Rabi said to Rabbi Prida: Would you show me the clusters in your vineyard? He answered him—Yes. He went forth and wished to show it to him from a distance. He saw in it a bull-like thing. He said to him: Does not this bul'-like thing damage your vineyard? He answered him: That is not a bull, it is the clusters. The thing which looked to you like a bull is in truth the cluster—it was very big'. The vine-growers knew from which vines to pick the grapes for the various uses—wine, fresh grapes, raisins and so forth. 'One does not gather grapes either from trellised or pergola vines, but from creeping vines (which are specially set aside and which produce better and sweeter wines). They are not wont to pick and store away the grapes, but they harvest and press the grapes at once and the juice is put into vessels which are neither great vats nor tiny jars but containers of medium size. These containers are placed neither in cellars nor on rooftops, but are left there and as they are, without being filled too full. To that end, they leave an empty space of two handsbreadths at the top, so that the sour smell may escape. The wine is not taken from near the top, to avoid the mould, nor from near the bottom, to avoid yeast, but about a third or half the way up' (Tosefta, Menahot, 9, 10); The making of raisins from grapes was well known and of traditional character: 'He used to eat some of the figs and the remainder take up on the roof to make dried figs of them. Do the same with grapes, to make raisins. Do not eat them till they are needed. The like applies to peaches, quinces and all other kinds of fruit' (Babylonian Talmud, Shabbat, 45a, and, again, Beitza, 26b).

Space does not permit our citing all that has been written in ancient Hebrew literature about grape-growing. It may be summed up in the words of the Jerusalem Talmud, Berahot, Chapter 6: 'The whole world and its fullness is like a vineyard, And what is its redemption? Abundance.'

The Roman writers. In the 4th century A.D., we find the following in a book of unknown Roman authorship, 'Totius Orbis Descriptio' (C 29): 'Important cities, bustling with trade and with an abundance of things,

send their best wine to the whole land of Syria and Egypt,' and, among the exporting cities, the names of Nablus, Lod and Caesarea appear. Eusebius of Caesarea (A.D. 260-340) speaks of the wine of Arbel and also of Abila, in the environs of which are great vineyards, hence the designation, 'vineyards of Abel,' to distinguish them from other places in Palestine similarly named.

Hieronymus (Saint Jerome) (A.D. 345-420), in his work 'The Pilgrimage of the Holy Paula', composed in the last quarter of the 4th century, speaks thus: 'And thence came to Escol (Halhul), which means 'Cluster of Grapes'. From hence as a testimony of a very fertile land, and as a type of Him who saith: "I have trodden the winepress alone and of the people there was none with Me" (Isaiah 63: 3), the spies carried off a bunch of grapes of wonderful size. From this spot, looking down upon the wide desert and what was once the country of Sodom and Gemorrah, of Adama and Seboim, she beheld the garden of balsam and the vineyards of Engedi. And she remembered the cave of Lot and, bursting into tears, she warned the maidens, her companions, to avoid wine, wherein is excess.'

The same Hieronymus, in his 'Life of Hilariion,' praises the wines of Halutza (in the Negev), produced from vineyards planted on elaborate terraces. In fact, traces of ancient wine-presses are found today in the region.

Antoninus Placentinus (the Martyr) (A.D. 570) says of Jericho: 'There grows a vine from which on Ascension Day and at Pentecost baskets full of grapes are gathered. These are sold on Mount Scopus in Jerusalem, where one also can find for sale wine made of those grapes.' Of Nazareth, Antoninus writes: 'This province is like a park of corn and its products are like those of Egypt—but it excels in wine and oil, fruits and honey.'

The Arab Conquest (A.D. 636-1098) In this period, particularly in the course of the 7th and 8th centuries, Palestine was a commercial link between Egypt and the lands to the north and east and in between. Its principal agricultural products were of the vine and of the olive—especially oil and raisins. But because Islam forbade the drinking of wine—the Caliph Al-Hakim (996-1020) ordered destroyed all raisins and grapes that could be made into wine—ruin overtook many vineyards, and only a few, which produced grapes for the table and



Fig. 7. One of the seasons of the year, from the mosaic pavement of the 4th Century A.D. Synagogue at Hamat Tiberias.

for the making of raisins, were left in limited areas of the Holy Land.

Bishop Arculf (680) tells us that 'there are few trees on the Mount of Olives except for vines and olive trees', and of Jericho he remarks that 'the whole area of the town is covered with fields of wheat and vineyards.'

The Arab voyager Ibn Hokl (978) is interesting: 'The Dead Sea exudes a substance called himar (bitumen), which the inhabitants of Zoar use to increase the yield of their vines.' It would seem that the author had in mind the local practice, which prevailed until recently, of smearing the stems of the vine with bitumen to prevent damage by certain insect pests and thus to get larger yields.

The Arab geographer Al Maqdisi (985) recalls the existence of vines at Abila and also near Kadesh in Galilee, at Farradiya near Safad and at Hebron. Speaking of the Jerusalem district, he particularly emphasizes the famous raisins of the 'Einuni' and 'Dura' varieties. And of Jerusalem he says: 'Its grapes are marvellous, the plums come nowhere near

them.' He mentions, among others, a variety of grape called 'Assimi,' which is probably a place-name.

The Persian traveller Nasir-el-Khusrau (1047) says that the vines in Palestine are not grafted.

The Crusades (1099-1291). During the occupation of Palestine by the Crusaders, the plantations were devastated. Lack of security and oppressive taxation were the main reasons why many of them were abandoned. Nevertheless, several writers of the period mention that, in Palestine, vineyards, olive groves, and various orchards still remained here and there—on Mount Carmel, in Bethlehem, in Hebron and elsewhere; on Mount Carmel, they speak of wine-presses in the vineyards. In 1106, Bishop Daniel, the Russian, praises the grapes of Samaria and Hebron: 'The best fruits in this place are the grapes, whose taste is ambrosial.'

The Arab writer Al Idrissi (1154), Rabbi Benjamin of Tudela (1170), William of Tyre (1130-1190), Jacques de Vitry, Bishop of Acre (1210-1240), Geoffrey de Vinsauf (1187)—not one of these fails to discuss the vines and grapes of the Holy Land, and their descriptions take in the whole country from north to south: Samaria, Ramla, Assur between Jaffa and Caesarea, Nazareth, Ein-Gedi, Mount Turan in Galilee, Ashkelon, the area between Tyre and Banias in Galilee, Acre, the Naaman district in the Bay of Haifa, as well as Mount Ahmar, Mount Tabor, Jaffa and Genessareth—all are mentioned. The Arab writer Yakut (1225), speaking about Tabor, says: 'All around are vineyards from which wine is pressed.' Jacobo di Verona (1230) writes: 'And in Safad are many olives and vines and all the bodily pleasures of man'; and concerning Bethlehem: 'Besides this church in Bethlehem, which is situated on a lovely and pleasant hill, around this hill are vineyards . . .'; and again: 'And also in the neighbourhood of Hebron are great vineyards. There are vines in the Convent of Saint Catherine.'

Burchard of Mt. Zion (1280) has this to say of the vineyards of Bethlehem: 'There are still magnificent vineyards. The Moslems do not tend them, and there are no Christians there to look after them. But not far from Bethlehem there is the village of Bazak which makes an excellent wine that has no equal in

all the Land. All the inhabitants of the village are Christians. They cultivate their vines as far as the Brook of Eshkol. They have been authorized to cultivate them, and pay high taxes to the powers-that-be.' And he continues: 'There are many vineyards in the Holy Land, and there could be many more. But as the Moslems who govern the country do not drink wine—apart from the small number who indulge in secret, all the vines have been uprooted except those few which grow near Christian dwelling-places, where vines can be grown for gain, and the wine be sold to Christians.'

The Rule of the Mamelukes (1250-1517). Abu-el-Fida (1321) maintains that Palestine is the most fertile part of Syria and states that 'the vines, fig trees, olive groves identify themselves with the richest returns of agricultural wealth.' And he goes on to say: 'The Dead Sea produces a material known as 'himar' (bitumen), and the inhabitants of the region use this material on their vines and fig trees.' This is further proof that bitumen was used anciently to paint the stems of the vine so that, apart from other advantages, the grape bud-moth should not creep up to the vine-buds and destroy them.

Sir John Maundeville (1322), describing Bethlehem, writes: 'There are fair vineyards about the city, great plenty of wine . . . the Saracens neither cultivate vines nor drink wine.' Al-Omri (1347), in his book 'Al-Masliq', refers to vines, olives and figs in Jerusalem. Ibn Battuta (1355) relates that dried figs, raisins and olive oil were exported from the Holy Land to Egypt.

Felix Fabri (1480 and 1483) says of Jericho: 'Besides sycamores, other trees grow there, both fruit trees and scented grape vines (muscats) and many fig trees bearing exceeding sweet fruits.' and of Gethsemane: 'These grapes were exceeding sweet and were both black and white ones.' His conclusion is significant and perceptive: 'I myself said secretly in my heart: Lo now, this is the land which is said to flow with milk and honey; but I see no fields to bring forth bread, no vineyards for wine . . . Lo, it is all stony, sun-baked and barren.

'From this it is clear that the land is in the state wherewith it was threatened in the Holy Scriptures. Nor was it always thus, as we could see with our own eyes, for throughout those



Fig. 8. Leda and the Swan, Roman marble sarcophagus found at Caesarea. Courtesy of the Israel Department of Antiquities.

deserted mountains we saw old walls built of great stones which are believed to have been constructed by the children of Israel, and they had oil, wine, corn and all the necessities of life from the loftiest and stoniest of these hills . . . among the ancient walls we saw vines, olives and corn.'

Rabbi Obadiah of Bertinoro writes in 1489 of the neighbourhood of Jerusalem: 'The vineyards in this district are like those of the province of Rumania, for the vines are low and rough . . . the grapes here are bigger than the grapes of that province. Further away is the Brook of Eshkol, which still preserves its name, and the grapes along its course are larger, even today, than all those in the entire country around.'

Meshullam ben Menahem of Volterra (1481)⁷ says of Gaza that 'it is a good and fer-

⁷ The quotations from Jewish travellers which I use are taken from 'Letters from the Land of Israel' and 'Travels in the Land of Israel,' both in Hebrew, by Abraham Yaari.

tile land, its fruits are excellent and bread and good wine are to be had there—although the only people who make wine are the Jews.’

Turkish Period (1517 until the renewed Jewish settlement in 1870). Bartholomeus of Saligniac, in his work ‘Travels in the Holy Land’ (1519), speaks of special practices in the vineyards of the Jerusalem area (probably in Ein-Gedi) in his time, practices already recorded in early Hebrew writings: ‘In this country of fertile soil and warm climate, there are sometimes three pickings of grapes in a single season. This is how it is done. In March the clusters first appear on the vines. All the growth above those clusters is cut away. A new growth appears in April, and this, too, bears its crop of clusters. Again, whatever growth is above those second clusters is cut away, and the vine once more puts forth a fresh growth, and a third set of clusters is produced on it. In that way one gets a first ripe picking in the month of August, a second in September and a final one in October.’ In this period, the existence of vines in Palestine is referred to by Israel of Firusha (1517–1523), David di Rossi (in his letter of 1535), Pierre Belon (1553), the Dutchman, Dr. Leonhart Rauwolff (1575), Rabbi Solomon Meinsterl of Safad (1607) and George Sandys (1610). Rabbi Meinsterl, when he speaks of Palestine, writes: ‘Even in its desolation it produces the fruits of olive and vine . . . people come by ship from the ends of the earth, from Venice and Spain and France, from Portugal and Constantine, and take on cargoes of grain and olive oil, raisins, dried figs, honey, silk and good soap.’ And George Sandys states: ‘The Greeks in Gaza have small vineyards and they manufacture wine clandestinely from the grapes. The Christians in Bethlehem grow vines, but for others viticulture is forbidden, lest they make wine.’ Rabbi Moshe Poriat of Prague (1650) is very detailed: ‘The grape season begins with the new moon of Tamuz and ends after Hanukka. After New Year they begin to make the wine, each man in his own house. They buy the grapes by weight; a rotl of grapes costs two zelmars, and every rotl of grapes produces half a rotl of wine. They do not squeeze the grapes, but put them into big cloth-bags and tread them with their feet. What is left after the treading they steep in water, in earthenware vessels, for seven days, until it is absolutely saturated, distil it into

alcohol in a cauldron as in Europe, and, if anyone wants grape-honey, he boils the grape-juice until a quarter of it is left, and that is grape-honey. They also make grape-jam, and if the wine turns sour, they distil it into alcohol.’

M. I. Doubdan (1651), too, is a keen observer: ‘In the neighbourhood of Bethlehem they grow olives, figs and vines, and they make excellent wine there . . . We came to a valley which was entirely planted with vineyards, and the grapes were beautiful and tasty. There is no doubt that these vines are the very same ones that the Hebrew spies saw in the days of Moses. I did not see the grapes themselves, but the wine made from them was among the most delicious in the Holy Land: white wine with a little rose flavour in it, very good to drink.’ Frère Eugène Roger (1663) is no less specific in his book ‘The Holy Land’: ‘The vine [of Palestine] bears larger clusters than that of France, and although most of the Turks do not drink wine, there are many vineyards in the country. The best of them by far are to be found in Hebron, Bethlehem (the Brook of Sorek), Jerusalem, Bethel and Shfaram. Of the wine, it can be said that it is very good. The weight of a cluster of grapes is 7–8 pounds . . .

‘. . . a great part of the mountainous regions which are especially good for the vine as is evident from the existing vineyards. Apart from the natural quality of the soil, the country enjoys the rays of the sun which add to its fertility.’ Of Safad he adds: ‘Lovely vineyards . . . the grapes are sold to the Jews, for the Moslems do not press wine from them.’ We find the following in Rabbi Gedalia of Semiatyez (1700–1706): ‘And there are in Palestine many fruits, such as grapes and figs and the rest . . . The grapes are big and round in Jerusalem, but in Hebron they are more numerous and larger than those in Jerusalem. And so, when vendors sell the grapes of Hebron in Jerusalem, they praise them and cry: “Come and buy the grapes of Hebron”.’ And then there is his meticulous description of the making of grape-honey: ‘They cook the grape-juice which is expressed from the grapes, immediately after the grapes are trodden. It is then very sweet, like real honey. Then they cook it again until it becomes as thick as honey . . . Grape-honey is much cheaper, approximately half the price of bee-honey.’

Frederick Hasselquist, a botanist (1749, 1750, 1752), also explains how scented wine is made by the addition of dried vine-flowers: he concludes that the strains of Rhenish vines in Germany were introduced into that country from Hebron in the days of the Crusades. Van Egmont and John Heyman (1759) claim that on the way to Safad: 'the clusters of grapes are beautiful and appetising, and from them the Jews make wine which could be excellent if they only knew how to prepare it'.

The Abbé Mariti (1767) saw grapes in Jaffa, in Kiryat Anavim, in Kolonia and in Bethlehem. He, too, speaks of 'himar,' which was prepared from bitumen from the Dead Sea: it was mixed with oil and, as will be recalled, was daubed on the vines to prevent caterpillars of the grape bud-moth from crawling onto them. M.C.F. Volney (1783, 1784 and 1785) notes the presence of vines in Acre and Bethlehem. He says in speaking of Hebron: 'The vineyards are not cultivated for wine-making. Raisins are made out of the grapes. The grapes are excellent.' Chateaubriand, the famous French author (1768-1848), writes of Galilee: 'This would be a paradise were it inhabited by an industrious people under an enlightened Government. Vine-stocks are to be seen here a foot and a half in diameter, forming vast arches of verdure. A cluster of grapes two feet long will give an abundant supper to a whole family.' Thomas Harmer (1815) reports: 'The black grapes ripen on 6 June . . . the white grapes on 13 July . . . Small white grapes ripening in August are known as 'Askerie', and there are grapes called 'Sahibi', which ripen on 10 September.' And he infers that Moses sent his spies to the mountains of Hebron in the month of August, which is the season when grapes, figs and pomegranates ripen there.

Rabbi David d'Beth Hillel (1824), speaking of Jerusalem, writes: ' . . . a variety of black grapes, whereof each grape is as large as the tip of a man's thumb, and the cluster often attains a weight of eighteen to twenty English pounds There are in the country five kinds of wine: white, red, black, scented and spirituous.'

Alphonse de Lamartine (1832) prophesying better, perhaps, than he knew, states: 'A country such as this if it were repeopled by a new Jewish nation, cultivated and watered by understanding hands, fertilized by a tropical

sun, producing of itself all the plants necessary or appetising to man from the sugar cane and the banana to the vine . . . a country such as that, I say, would again be the Land of Promise today if Providence would give it back a people and a government of tranquillity and liberty.'

Robinson and Smith (1838) observe: 'First grapes ripen in July, and from July to November Jerusalem is abundantly supplied with this delicious fruit. The general vintage takes place in September.' Of Ein-Gedi they say: ' . . . while its vineyards are likewise mentioned in the Old Testament. Quaresmius speaks also of its vineyards as formerly connected with Bethlehem and these are probably the same which Hasselquist regarded as the vineyards of Solomon at Ein-Gedi.' Of Hebron they say: 'We were struck with the abundance and large size of the raisins, finer indeed than we saw anywhere else in the East; also with the excellence and cheapness of the fruit in general.' They describe the method of cultivating vines: 'We could now observe more nearly the peculiar manner of training the vines. They were planted singly in rows, 8 to 10 feet apart in each direction. The stock is suffered to grow up large to the height of 6 to 8 feet and is then fastened in a sloping position to a strong stake and extended from one plant to another, forming a line of festoons. Sometimes two rows are made to slant towards each other and thus form by their shoots a sort of arch. These shoots are pruned in the autumn. The finest grapes are dried as raisins, the rest being trodden and pressed. The juice is boiled down to a syrup which, under the name 'dibs' (honey), is much used by all classes.'

John Godsby (1846), speaking of Hebron, reports: 'The grapes of Hebron are regarded as the best in the country: three kilograms to the cluster. One finds many wine-cellar and old wine-presses here. Here they make raisins and concentrated juice of grapes, which is known by the name "dibs".' John Wilson, in 'The Land of the Bible' (1847), praises Hebron: 'From the vineyards grapes of the largest size and finest quality, such as the spies may be supposed to have taken from Israel, are at present procurable.' J.A. Spencer (1850), author of 'The East,' quotes Lord Lindsay in it thus: 'The hills once terraced and crowned with olive-trees and vines are uniformly bare or overgrown with wild shrubs and flowers, proofs far more than sufficient that the land



Fig. 9. Grape picking in Galilee (1960).

still enjoys her sabbaths and only waits the return of her banished children and the application of industry commensurate with her agricultural capabilities, to burst once more into universal luxuriance and be all that she ever was in the days of Solomon'.

F. de Sauley (1850) says of Ein-Gedi: 'I could not find the vineyards of which it is said that they were cultivated in this vicinity up to the 18th century. There is no sign of vineyards, or even of date-palms.'

H. B. Tristram (1866), in 'Land of Israel,' is exact in his description of the presses for treading out grapes which he saw in the vineyards on Mount Carmel: 'Each vineyard seems to have had a wine-press . . . A flat or gently sloping rock is made use of for their construction. At the upper end a trough is cut about 3 feet deep and $4\frac{1}{2}$ by $3\frac{1}{2}$ in length and breadth. Just below this, in the same rock, is hewn out a second trough 14 inches deep by 4 by 3 feet in size and the two are connected by two to three small holes bored through the rock so that the grapes being put in and pressed down the juices streamed into the lower vat.'

Le docteur Lortet (1884), speaking of the

German (Templer) settlers, remarks that, already in 1880, they began to plant vineyards of wine-grapes in Palestine: 'The German settlers planted on the terraces of Mount Carmel. The vines they brought with them from the banks of the Rhine. These thrive admirably, and from their grapes they make a very good wine which resembles the wine from the south of France.' In his description of Hebron, Lortet says: 'Hebron is planted with many vineyards and various fruit trees . . . Here in Hebron are to be found the most extensive vineyards in Palestine. To protect the grapes, they build towers in the vineyards, in which watchmen sit. The vine-stems are very thick, and they creep along the surface of the ground. The grapes are big and fine, ripening from the beginning of July until the month of November. They are sent to Jerusalem. Those clusters which are not sent to the market are dried in the sun or concentrated juice is made out of their grapes: this is known as 'dibs' and serves as a substitute for sugar. In spite of the ban imposed by the Turkish Government, a certain amount of wine is manufactured, similar to the Cyprus wine or white wine. The wine is made only by Jews, to whom the vineyards belong.'

The Vine in Recent and Modern Times (1870-1962). When the Agricultural School of Mikve Israel was founded in 1870, a vineyard was planted, composed of wine grapes mostly but with a few table grapes. A number of wine-varieties were introduced into the vineyard from France, such as Alicante Grenache, Bordelais, Carignane and Petit-Bouschet.

The first modern Jewish settlers interested themselves particularly in wine-grapes, as vineyards of table-grapes were already numerous, and they were in Arab cultivation. Moslem Arabs did not engage in the making of wine; some wine was, however, produced by Christian Arabs.

The first extensive vineyards of wine-grapes were planted in Rishon-le-Zion in 1885, from cuttings taken from the vineyard of Mikve Israel. In 1889, four years after that planting, the large wine-cellar of Rishon-le-Zion came into being. About the same period, additional centres of wine-grape cultivation were established in Galilee (Rosh Pina) and in Samaria (Zichron Yaacov and its daughter-villages). For fear of Phylloxera, which was then widespread in Europe, additional European



Fig. 10. Grape harvest in Judaea (1960).

varieties were brought from India in 1889; Malbec, Cabernet, Cabernet-Sauvignon and Nerella for red wine; Semillon and Sauvignon for white wine; Malaga and Muscat of Alexandria for sweet wine.

In 1890-1891, Phylloxera made its appearance in Galilee and Samaria and ravaged many vineyards. As a means of protection, American stocks were introduced, especially of the Riparia, Aramon, Rupestris and Jaquez, and a nursery was established from which material was distributed for planting new vineyards in the place of those destroyed or uprooted to check the inroads of the pest. Later still, in 1912, Aaron Aaronsohn introduced a large collection of varieties of wine- and table-grapes into the Experimental Station at Athlit. All were grafted on American stocks.

In 1890 (before there had been any uprooting on account of Phylloxera), the area of vineyards of wine-grapes in Palestine was approximately 28,000 dunams.⁸ But the area diminished progressively after that; and, in 1900, it was only 23,000 dunams, which yielded about 4,000 tons of grapes.

Yields then rose steadily with the improvement of viticulture, and there was actually a surplus of wine. In 1901, Baron Rothschild,

who supported the villages, instructed that there should be no further planting, and went so far as to recommend the contraction of existing areas. At the outbreak of World War I, the area planted to wine-grapes covered 18,000 dunams. After the War, with the extension of citrus groves, it was even further reduced, particularly in Judaea; and, in 1934, it amounted only to 8,800 dunams. It was not until well into the period of the British Mandate that plantations of wine-grapes were renewed, especially in the region of Samaria. In 1946, the extent of Jewish vineyards in Palestine was 16,000 dunams, which produced about 9,000 tons of grapes, and from that quantity about six million litres of 'must' were pressed. As for table-grapes, there were at that time some 100,000 dunams of plantations, virtually all of them in Arab ownership, and most of them of Dabouki and similar varieties.

After World War I, on the initiative of A. Ettinger and J. Weitz, the Settlement Department of the Jewish Agency introduced a considerable range of table-grapes. Of these, the majority were planted in Kiryat Anavim, and from there the Dattier de Beyrouth, Alphonse Lavallée, Dodrelabi, Chasselas Doré, Servant, and other varieties were distributed to new villages in the Jordan and Jezreel valleys. The Palestine Jewish Colonization Association

⁸ A dunam equals 0.1 hectare.

also introduced many table-grape varieties into its experimental vineyards in Gvat, Kfar Giladi and Zaronia.

The Department of Agriculture of the Mandatory Government took some part in the introduction of new varieties, such as the Pearl of Czaba, the Queen of the Vineyards, both from Hungary, Flame Tokay and Emperor from California, and other countries. New varieties from different sources were brought in, apart from the first collections in the previous century, by the Mikve Israel Agricultural School as well.

In 1946, before the State of Israel was re-established, the aggregate area of all the vineyards in the Holy Land was in the region of 180,000 dunams, of which 159,000 were owned by Arabs and 21,000 by Jews (including 5,000 dunams of table-grapes). In that year, the overall yield came to 53,500 tons; the production of raisins was 100 tons a year, and most of it came from Arab villages.

When, in 1948, Israel came into being, the area of vineyards within its boundaries was as follows: 50,000 dunams of table-grapes, yielding 10,600 tons, and 14,000 dunams of wine-grapes, yielding 7,500 tons. Since then the area has been growing steadily, and in 1959 was 74,000 dunams of table-grapes, with a yield of 30,000 tons, and 39,000 dunams of wine-grapes with a yield of 28,000 tons.

The table-grape varieties, in order of importance as regards area, are Dabouki, Muscat of Hamburg, Alphonse Lavallée, Queen of the Vineyards, Sultanina and Danugue. The principal varieties of wine-grapes are: Alicante Grenache, Carignane, Muscat of Alexandria, Semillon, Clairette and Alicante Bouschet. For the time being, sufficient is produced for

a population of two and a half millions, and there is not much room for extending the acreage. The wine that comes from the area presently planted to wine-grapes seems to be decidedly enough for local consumption and for an export that today amounts to something around a million litres. The area planted to table-grapes is also adequate for the domestic market, and indeed a small surplus is perceptible in the middle of the season: the plan for enlarging the area in the future will be limited to early varieties for the purpose of export, and to a small addition of late ripening varieties for local consumption in the autumn months.

The export of table-grapes in 1959 was 400 tons, but there are prospects of enlarging it during the peak months of June and July. A very small space is still left for planting raisin varieties, especially of the Sultanina (Thompson seedless) for home consumption. From the point of view of economic profitability, there appears to be no prospect for the export of raisins.

In 1962, the area under table-grapes was around 50,000 dunams, and that under wine-grapes was 44,000 dunams, whereof only 38,000 were in bearing and the rest represented new plantations. The yield is 41,000 tons of table-grapes and of that amount some 360 tons are exported. The yield of wine-grapes was 30,000 tons.

The production of wine and 'must' in 1962 amounted to 32 million litres from the total yield of wine-grapes and from some 11,000 tons of table-grapes which were not marketed as such. The export of wine in 1962 was around 1,175,000 litres, that of brandy and other spirits was 78,000 litres.

STATISTICAL POSTSCRIPT

The table-grape varieties, in order of importance as regards area, are Dabouki, Sultanina, Alphonse Lavallée, Queen of the Vineyards, Muscat of Hamburg, Danugue, Dattier de Beyrouth, Pearl of Caba, Madeleine and Chassella.

The principal varieties of wine-grapes are Carignane, Alicante, Grenache, Muscat of Alexandria, Semillon, Grosse Clairette and Alicante Bouschet.

In 1964, the area under table-grapes was around 50,000 dunams, and that under wine-grapes about the same. The total yield was 50,000 tons of table-grapes, of which some 500 tons were exported. The yield of wine-grapes was 34,000 tons.

The production of wine and must in 1964 amounted to 39,000,000 litres from the total yield of wine-grapes and from some 16,000 tons of table-grapes which were not marketed as such.

The export of wine in 1964 was around 1,500,000 litres, that of brandy and other spirits 40,000 litres.



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The Place of the Olive in the Holy Land and its History Through the Ages¹

ASAPH GOOR²

Introduction

The cultivated olive (*Olea europaea*) had its origin in the wild olive. According to De Candolle, the home of the wild olive is "East and West of Syria and Palestine, from the Punjab as far as Portugal, the Canary Islands and Morocco, and beyond to Macedonia and the Caucasus." In the Holy Land, the wild olive tree (*Olea europaea* var. *oleaster*) flourished in the woodlands of the Carmel hills, in Samaria, Lower Galilee and in Gilead, and it is reasonable to infer that the cultivated kind is an outgrowth from it. Even today, it is seen in the vestiges of natural forest stands in those areas.

In the Neolithic period (7th to 5th Millennium BC) in the Middle Stone Age or Mesolithic period (10,000–6000 BC) and perhaps earlier still—in the Old Stone Age or Paleolithic period (prior to 10,000 BC), primeval man in what is now Israel dwelt in caves adjacent to Mount Carmel and in Galilee, and in other localities where the wild or semi-wild olive thrived. The fruit of this spontaneous plant was not rich in oil; but, for all that, it sufficed to sustain the ancients. As the aeons passed, the developing mind of man learned to await ripening for his taste or to alleviate its bitterness through pounding or salting.

It will be a pardonable anachronism to refer here to three literary citations relative to that bitterness. "For really there is no tree bitterer than the olive" (Midrash, Mechilta, Beshalah, 18a). Addressing the Almighty, the dove says: "Lord of the universe, may my food be as bitter as the olive and entrusted to Thine own hands and not be as sweet as honey and entrusted to hands of flesh and blood" (Babylonian Tal-

mud, Erubin, 18b). "The scholars of Babylon whose bitterness in disputation is as the bitterness of the olive" (Babylonian Talmud, Sanhedrin, 24a).

Then the art of pressing the oil from the olives was invented and the oil was used as food and in the kitchen, as a source of light and for healing. On these usages, more will be said later.

For a long period, wild olive shoots constituted a source of stocks upon which cultivated varieties were grafted. Suckers springing up around the wild trunk were employed, as were the kernels of the wild fruit.

The cultivated olive, as we know it, first evolved in the regions of the Levant, east of the Mediterranean Sea, the region of Israel among them. Of this, there is proof in the discovery of kernels of the cultivated type in excavations in sites of the Chalcolithic (4th Millennium BC) and Bronze (3rd-2nd Millennia BC) Ages—for example, Bnei-Brak, Megiddo, Gezer, Lachish, Beth She'an, Beth Yerah and Afula. At these and other localities, oil jars belonging to the same periods were also unearthed, and ancient oil presses have come to light in various parts of Israel where the olive is now widespread, as well as in places where it no longer exists.

From Israel and Syria, the cultivated olive made its way to Egypt (about 3000-1800 BC) and to Semitic "Kart-Hadtsa," or the New City, which the Phoenicians founded in North Africa and the Romans called Carthago. It was in the 7th-6th Centuries BC that it emigrated from Greece or North Africa to Italy, and then to the remainder of the Mediterranean lands.

The Hebrew word for olive is "zayit," which might stem from a radical that means "to ooze, drip" or "to sprinkle," in allusion possibly to the oil squeezed out of it. It is, however, more persuasively claimed that "zayit" is akin to the noun "ziv," "lumi-

¹ Rendered from the Hebrew by Max Nu-
rock.

² Ministry of Agriculture, Jerusalem, Israel.
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nescence," a medium of silvery brightness, in reference to the silvery beauty of the under surface of the leaves, just as olive oil, as distinct from other oils, is called "yitzhar" in Hebrew, for the reason that it shines, that it glows brightly. That notion of incandescent grace is inherent in the title of the classic of Cabbalism, the "Zohar."

In ancient Egypt, by borrowing, the tree was called "zet" or "tzet"; it was also called "bak." In Coptic and in Arabic, it is called "zait," almost as in Hebrew, and in colloquial Arabic "zaitoun." In the dialects of Canaan or Phoenicia, it is "tzat," and this, or possibly the colloquial Arabic, is the precursor of the Spanish "aceituno."

The botanical term "olea" is, of course, taken from the Latin, and the Greek "elaion," Latin "oleum," has given the West not only its words for the olive itself but also its words for oil, whether it be oil of fruit or root, of greens or grains, of bark or of mineral. This bespeaks the tremendous impact of the olive and its product upon the economy and culture of the Mediterranean Basin.

The Importance and Place of the Olive in Early Hebrew Literature

The olive was the outstanding fruit tree of the Hebrews, and over and over again its names recur in the Bible, the Mishna, in Talmud and in Midrash. The inhabitants of the Land of Israel and the territories round about were more closely linked with it than with any other fruit tree. It was the focus of their husbandry. Here men planted it and tended it, here they savoured its oil and, if necessary, here they went to war for it. Out of it sprang a nexus of traffic with other peoples and with foreign lands. In payment for it, timber and metals were procured from across the seas. De Candolle has this to say: "The fruit of the olive and its oil are inseparably bound up with the Hebrew people."

In antiquity, the olive, in Jewish symbolism, stood for peace and well-being, for happiness and the joy of living and for wisdom. It was an image of fertility: "... Thy children [shall be] like olive plants [suckers] round about thy table" (Psalms, 128, 3); and of fruitfulness and flowering: "... and [he] shall cast off his

flower as the olive" (Job, 15, 33). It typified purity and clarity, vigour and abundance, strength and loveliness: "But I am like a green olive tree in the house of God" (Psalms, 52, 8). What then could be more appropriate for the emblem of the newly born State of Israel than stylised olive branches encircling the immemorial *menorah* of Jewry?

The Israelite people availed themselves of the olive and its oil at every opportunity, on holy days and secular, during seasons of tranquility and, no less, in times of warfare. A myriad of biblical passages attests this, and also, in many a verse, the merits of the olive and its oil are spoken of in the same breath with the virtues of wheat and wine, or the catastrophes of olive blights and failure of the harvest are recited: "For the Lord thy God bringeth thee into a good land . . . a land of wheat . . . a land of oil olive and honey" (Deut., 8, 7, 8);³ a more literal rendering of the Hebrew and, for present purposes, a more meaningful one would appear to be: "a land of olive, of [its] oil and of honey (that is, of the date)." "Until I come and take you away to a land . . . of corn [grain] and wine, a land of bread and vineyards, a land of oil olive and of honey that ye may live, and not die" (Kings II, 18, 32).⁴ "And six years thou shalt sow thy land and shalt gather the fruits thereof: but the seventh year thou shalt let it rest and lie still; that the poor of thy people may eat: and what they leave the beasts of the field shall eat. In like manner thou shalt deal with thy vineyard, and with thy olive yard" (Exodus, 23, 10-11). "... He will also bless the fruit of thy land, thy corn [grain] and thy wine, and thine oil" (Deut., 7, 13).

"Thou shalt carry much seed out into the field, and shalt gather but little in; for the locust shall consume it. Thou shalt plant vineyards, and dress them, but shalt neither drink of the wine, nor gather the grapes; for the worms shall eat them. Thou shalt

³ The Jerusalem Talmud, Bikkurim, Chapter 43, Halacha 4, remarks: "Why is the word *land* written twice? It is to tell you that the Temple depends on those two things" [namely: the wheat and the olive].

⁴ Here, again, the Hebrew version is: "a land of olive, olive oil and honey."

have olive trees throughout all thy coasts, but thou shalt not anoint thyself with the oil; for thine olive shall cast his fruit" (Deut., 28, 38-40). "And he will take your fields, and your vineyards, and your olive yards, even the best of them, and give them to his servants" (Samuel I, 8, 14).

These three—wheat, wine, oil—were the staples of life to be stockpiled against the day of enemy action: "And he fortified the strongholds, and put captains in them, and store of victual, and of oil and wine" (II Chronicles, 11, 11).

The prophets likewise made much of this trio: "For she did not know that I gave her corn [grain] and wine, and oil" (Hosea, 2, 8); and: "And the earth shall bear the corn, and the wine, and the oil and they shall hear Jezreel" (Hosea, 2, 22). "And the floors shall be full of wheat, and the vats shall overflow with wine and oil" (Joel, 2, 24). Joel, in an earlier verse (2, 19), promised: "Yea, the Lord will answer and say unto His people, Behold, I will send you corn, and wine, and oil, and ye shall be satisfied therewith: and I will no more make you a reproach among the heathen."

Conversely, the worst execrations of the prophets call down calamity on a wheat field or vineyard or olive grove: "I have smitten you with blasting and mildew: when your gardens and your vineyards and your fig trees and your olive trees increased, the palmerworm⁵ devoured them: yet have ye not returned unto me, saith the Lord" (Amos, 4, 9). "Thou shalt sow, but thou shalt not reap; thou shalt tread the olives, but thou shalt not anoint thee with oil; and sweet wine,⁶ but shall not drink wine" (Micah, 6, 15). "Restore, I pray you, to them, even this day, their lands, their vineyards, their olive yards and their houses, also the hundredth part of the money, and of the corn,⁷ the wine, and the oil, that ye exact of them" (Nehemiah, 5, 11). Nor is this trio wanting in the Apocrypha: "In those days all the land will be worked with justice and all of it planted with trees and filled with blessing. And all the trees of beauty will be planted upon it, vines, and the

vines that shall be planted upon it will yield wine in plenty, and every seed that shall be sown upon it will yield a thousand-fold and the olives will yield tenfold oil" (Enoch I, 10, 18-19). And the Midrashic literature is no exception: "Blessed art thou in thy field whose possessions are in threefold portion—a third to corn, a third to vines, a third to olives" (Babylonian Talmud, Baba Metzia, 107a. "It is written bread and it is written oil and it is written honey—the first for young people, the second for the old, the third for infants" (Babylonian Talmud, Yoma, 78b).

The Israelites exported the fruit and the oil to Egypt, Tyre, Sidon and Syria: "And Solomon gave Hiram . . . twenty measures of pure oil year by year" (Kings I, 5, 11). "Ephraim feedeth on wind . . .; and they do make a covenant with the Assyrians, and oil is carried into Egypt" (Hosea, 12, 1). "Judah, and the land of Israel, they were thy merchants; they traded in thy market wheat of Minnith, and Pannag, and honey, and oil, and balm" (Ezekiel, 27, 17). Tosefta Shevi'it, 4, 19, recorded: "They bring [olive] stocks from abroad to the land [of Israel] . . . but not olives to be softened and pressed at home." Again, in the Babylonian Talmud, Menahot, 85b, we read: "Once, the men of Laodicea lacked oil for their purposes. They appointed an emissary and bade him thus—go and bring us a million measures of oil . . . and he went to Gush-Halav (in Galilee—Jish or Giscala) and measured out for himself a hundred and eighty thousand."

Midrash, Eicha Raba, 8, 3, is brief and to the point: "What did the tribes used to do? They used to despatch oil to Egypt."⁸

Occasionally, an embargo was placed on the export of olives and of oil from the Land of Israel to avoid local dearths: the Babylonian Talmud, Baba Bathra, 90b and 91a, says: "There is no export from the land of Israel of produce which is of vital worth, such as wines and oils." The historian Josephus (37-95 AD) likewise dis-

⁵ In Hebrew, locust.

⁶ In Hebrew, "must."

⁷ The Hebrew, throughout, is "dagan"—grain, not maize.

⁸ In a later generation, Hieronymus, known as St. Jerome, (340-420 AD) writes: "The olive does not grow in Egypt, and the finest is sent from Ephraim, where is the region of Samaria, most rich in the oil of olive" (Commentary on Hosea, 12, 1).

cussed the export of olive oil. Referring to his rival, Yochanan of Gush-Halav, he wrote: "Pretending that the Jews who dwelt in Syria were unwilling to make use of oil that was made by others than those of their own nation, he desired leave of Josephus to send oil to their borders . . . and as Galilee was fruitful in oil, and peculiarly so at that time, by sending away great quantities . . ." (Wars II, Chapter XXI, 2).

Manifold were the uses of the tree itself and of its fruit, and many were the products of the fruit: oil, lees and olive cake, the last two being by-products of oil-making.

The felling of olive trees ordinarily came under ban because of their great importance. Only when they were exceedingly old and had stopped bearing fruit, or were utterly decayed, might they be cut down. It was not permitted to kindle fires of olive wood, even upon the Temple altar: Mishna, Mena-hot, 9, 14: "All wood is ritually pure for the altar fire, saving olive wood."

For ordinary kindling, olive wood was permissible only if the trees from which it was taken had been decrepit and dried up: "Old olive trees may be sold for firewood" (Mishna, Ketubot, 8, 8), and "they fuel fires with the olive cake and with the grape seeds and grape skins of the seventh year, but they never light fires with walnuts or fuel them with olive wood" (Tosefta, Shevi'it, 6, 16).

So long as an olive tree yielded a standard amount of oil, its destruction was forbidden. "What yield for an olive tree and it shall still stand? A quarter (qab=300 grams) of oil. Rabbi Simon ben Gamliel prescribed it all according to the variety" (Mishna, Shevi'it, 4, 10). "What olive trees must one not cut down? Those that yield at least three login (approximately a litre) of oil to the seah of olives (seven kilograms)" (that is to say, a kilogram of oil to eight kilograms of olives, or 12 per cent of oil) (Jerusalem Talmud, Shevi'it, Chapter 4, Halacha 9).

Olive trees advanced in years were cut off at ground level, but the roots were spared so that the tree could go on producing suckers and regeneration would take place. A man who buys olive trees from his fellow "to cut down lets two suckers stay" (Mish-

na, Baba Bathra, 8, 3). This reaffirmed Tosefta, Baba Bathra, 3, 7: "[he] is not entitled to uproot the trees altogether and all," but must make sure of their restoration from suckers.

There was solemn concern in the Land of Israel, verging almost on ecclesiastical laws, for the preservation and survival of the olive tree. Olive wood, that most favoured of timbers, was used in liturgy and made into religious furniture. It was likewise employed for tools and toys and in the building of houses. In building, it was used especially for rafters: "And within the oracle he made two cherubims of olive tree, each ten cubits high . . . And for the entering of the oracle he made doors of olive tree . . . ⁹ The two doors also were of olive tree . . . So also made he for the door of the Temple posts of olive tree, a fourth part of the wall" (Kings I, 6, 23, 31, 32, 33). And in the Mishna, Baba Metzia, 2, 19: "He that makes appurtenances of olive wood uses a sound wood"; and Mishna, Kelim, 12, 8: "Rabbi Yahuda says that olive suckers are pure [for making appurtenances] when the bark begins to peel" (after immersion in water).

The leaves were of use either green or dried—the first as fodder for livestock, the second as fuel—and as a kind of paper for writing. The texts are eloquent in this regard: "And as to the olive leaves where-with you heat the stove" (Tosefta, Niddah, 7, 3). "For all purposes they write on olive leaves" (Mishna, Gittin, 2, 3). "They wrote with an ink of coagulated blood and coagulated milk on olive leaves, on carob leaves, and anything else that was durable" (Tosefta, Gittin, 2, 3).

Naturally, the branches were a popular withy for youthful basket makers and as thatch for booths at the Festival of Tabernacles. "And that they should publish and proclaim in all their cities, and in Jerusalem, saying, Go forth unto the mount, and fetch olive branches . . . to make booths, as it is written" (Nehemiah, 8, 15). The choicest and most beautiful of the branches were woven into garlands to bedeck the maidens: "And

⁹ Some suggest that the olive tree here meant the wild olive (*Olea europaea* var. *oleaster*).

Judith took branches in her hands and gave them to the women that were with her; and they made for themselves garlands of olive leaves, she and they" (Judith, 15, 12-13). "The olive tree excels for plaiting, and its branches are straight and do not overlap" (Jerusalem Talmud, Sukkah, Chapter 3, Halacha 3), a passage which Maimonides interpreted thus: "Because among all trees none is as pleasant as the olive: they were wont to make crowns solely from its branches." The ox that led the procession of pilgrims bringing first fruits to the Temple was bedecked with olive branches; Mishna, Bikkurim, 3, 3, explained: "... And its horns were tipped with gold and a garland of olive was about its head."

Using the Fruit

Olives were brought as offerings to the Temple among the first fruits. Tosefta, Bikkurim, 2, 8, described in detail how the worshipper bore his offering in a basket, arranging layer after layer of wheat, barley, olives, dates, pomegranates and figs, with clusters of grapes topping everything. But more prosaically, olives are cited more than once as the mainstay of the table of poor and rich alike, and different kinds were favoured for different needs—pickling and preserving, drying and the making of oil.

Midrash, Bamidbar Raba, 8, 10, enquired: "What kind of olives are there? There are olives for eating, olives for drying, olives for oil, and the oil thereof is the finest of all oils." "The fashion is to relish fresh or dried or salted olives, or the olives are pounded so that the pungent taste disappears" (Jerusalem Talmud, Pesachim, Chapter 2, Halacha 5).

Most of the olives grown in Israel were dual purpose varieties—valuable for both pickling and oil. Some varieties were employed only for pickling, and these were grown mostly under irrigation. All dual purpose varieties were grown without irrigation: some were sold for pickling, but, if there was no demand for them, they were taken to the oil press. Olives for pickling were costlier than those for oil, for the oil-rich kind grew far more profusely in Israel: "Pickling olives, "klopsch," are preferred to those for oil-making and not contrariwise" (Tosefta, Terumot, 4, 3).

The manner of marketing is described: "If the man who brings (dual-purpose) olives to market finds no buyers, he takes them back to the oil press . . . They are transported in baskets or in boxes" (Tosefta, Taharot, 11, 7).

Olives for eating were gathered only if they had a certain percentage of oil: "When



A Jewish coin of the Second War against the Romans, showing oil-jug and olive branches and the inscription in ancient Hebrew script: "To the Freedom of Jerusalem."

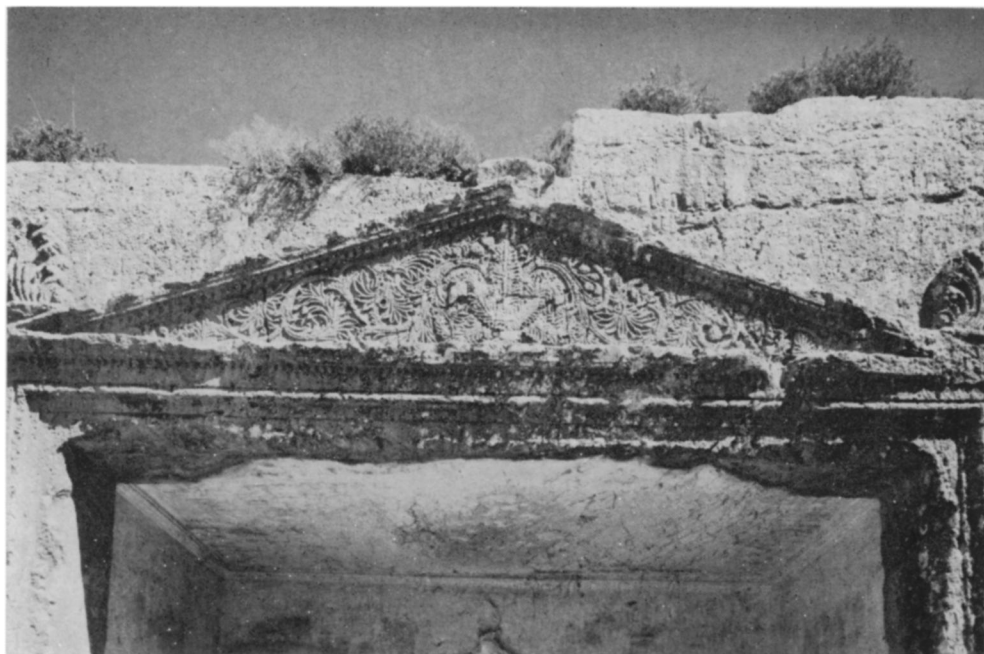
the olives yielded only a quarter of oil to the seah they were pounded and eaten then and there in the grove" (Mishna, Shevi'it, 4, 9).

Olives were prepared for eating in a number of ways—salting, pickling, drying, dipping in boiling brine, or cooking (Tosefta, Makkot, 4, 6). "The olive, though its vogue is to be eaten in the natural state, loses nothing in the pickling to that end" (Jerusalem Talmud, Berahot, Chapter 6, Halacha 1). "He that takes olives from the bin dips them singly in salt and eats them" (Mishna, Maaserot, 4, 3).

The favourite olives for pickling grew in irrigated groves: "Olives grown in irrigated groves sold at the portals of the bath houses are forbidden food but they may be enjoyed. And Rabbi Yosi forbids them for enjoyment as well, because vinegar is dripped upon them to extract their kernels" (Tosefta, Aboda Zara, 4, 8).

The most important use of the olive was the production of oil. A Midrash on Bamidbar Raba, 9, 11, commented: "The light of the oil is everlasting, so that it is called

'Brilliant' (Yitzhar)." The oil was consumed as such, or for cooking, or for lighting in homes, as well as in the Temple, and as an unguent to protect metal from rusting. It was also rubbed upon the body as a remedy for wounds or sores and against chills. It was, besides, a specific for strengthening the skin and muscles, as a cosmetic and as a salve to soothe sore ears and throat. It had fame as an ointment for the hair, to keep it strong and healthy; it was sometimes mixed with rose water and similar perfumes. It was an ingredient of writing ink and soap was prepared in great part from it. An intriguing agricultural exploitation was to daub fruit trees with a coating of the oil as a deterrent to plant pests, to keep the torrid summer heat at bay, or to protect the trees from frosts. It was advantageous in hastening the ripening of figs. It also helped in the weaving of wool, for greasing the fleece or for smoothing the fingers of the weaver; and shoes and sandals were softened with it, as, indeed, they have always been, wherever shoe leather is used.



"Sanhedriah Tombs," Jerusalem, decorated with olive leaves (1st Century BC–1st Century AD). AD).

But, not least, the oil had its role to play in sacred ceremonial—the anointing of the High Priest and the crowning of the King; nor should we disdain its use in the oiling of the holy vessels of the Temple and in the sprinkling of sacrifices.

Olive cake was, for the most part, used as fuel. "A pot with oil in it [kept on the fire for the Sabbath] must not rest on cake of olives [because it raises the heat]," we read in the Babylonian Talmud, *Shabbat*, 47b. The juice of the olive had many uses: as a curative for man or tree, to polish articles of brass, to prepare leather, or to keep ants and similar harmful insects away from grain.

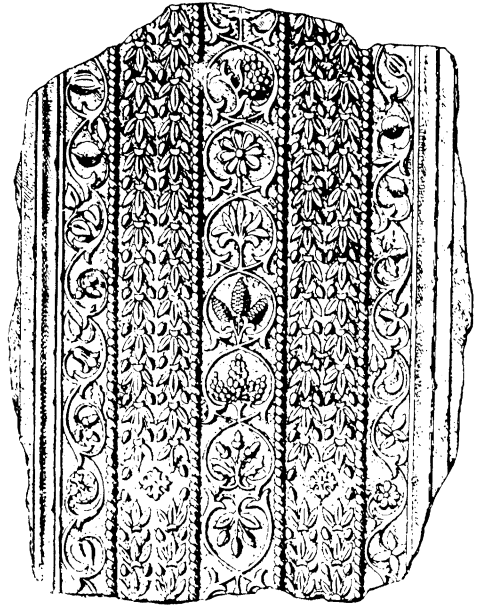
The stones were credited with efficacy in lessening toothache: "Let them bring olive kernels where the yield was not a third, that is, unripe olives, and roast them on a clean shovel over a hot fire, and apply them to the painful teeth. Do that, and you are cured!" (Babylonian Talmud, *Aboda Zara*, 25a).

Examples of places named for the olive and its oil in Israel are innumerable: 'Kerem Zayit'—olive grove (*Judges*, 15, 5); "The Mount of Olives" (*II Samuel*, 16, 30); "Bar-Zayit"—olive weald (*I Chronicles*, 7, 36); "Gei-Shemanim"—fat valleys, near Samaria (*Isaiah*, 28, 1); and, again, "Mount of Olives" (*Zechariah*, 14, 4).

In the New Testament, we have "Mount of Olives" (*Luke*, 21, 37, and 22, 39). "Hill of Anointing" (Mount of Olives) is given in *Midrash Bereshit Raba*, 33, 9; and we recall "Gethsemane", the oil press (*Matthew*, 26, 36; *Mark*, 14, 32). In the Book of the Maccabees 1, 7, 19, there is "Beit Zayit"—the House of the Olive, which in Josephus (*Antiquities*) has taken on the Aramaic form of "Beit-Zaita."

The Olive Regions

Long ago, the Hebrew farmer knew that the olive would flourish only in rainy areas with a cold winter. Experience had taught him that it required moisture during the growth-season, during flowering and formation of the fruit, and that it needed cold during winter months. These conditions prevailed in Upper Galilee and in the hills of Samaria and Judea. "It is easier for a man to bring up a legion of olive trees in



Lid of sarcophagus found in the "Tombs of the Kings" in Jerusalem, decorated with olive branches and fruit, 1st Century AD. (By courtesy of the Israel Department of Antiquities and Museums.)

Galilee than one babe in Israel" (*Midrash Bereshit Raba*, 20, 15).

Vineyards were scarce in Galilee, and wine was limited, while oil was abundant and less sought after, indicating a Galilee prolific in olive groves. The Babylonian Talmud, *Nazir*, 31b, found this curious: "Surely oil is superior to wine! Yet in Galilee it was the opposite—wine was valued above oil." And, again: "Whosoever wants to be wise will go south, whosoever wants to be rich will go north," for the north possessed the wealth of oil, the south the wealth of learning (Babylonian Talmud, *Baba Bathra*, 25b).

The portion of the tribe of Asher in the North excelled in its olives: "Out of Asher his bread shall be fat, and he shall yield royal dainties" (*Genesis*, 49, 20). "And of Asher he said . . . let him dip his foot in oil" (*Deut.*, 33, 24).

It was also remarked (*Midrash Bereshit Raba*, 95, 52): ". . . its land is fat, its sustenance is oil"; and the Babylonian Talmud, *Menahot*, Chapter 85b, added: "This is the portion of Asher that draws forth oil as from a fount."

The olives with the highest oil content came from Tekoa in Galilee, which Tosefta, Menahot, 9, 5, called "the alpha of oil." But Ben-Sira (3rd Century BC), speaking of the crops in the several regions of Israel, specifically described the Lowland (Shephela) as the most favourable environment for the olive: "As a cedar I was exalted in Lebanon, as a cypress on the Hills of Hermon, as a date palm in Ein-Gedi, as rose bushes in Jericho and as a radiant olive in the Shephela" (Ben-Sira, 24, 18).

In the south, the olives ripened early; in the north, later. "People eat olives till the last ones ripen in Tekoa. Rabbi Eliezar Ben Yaacov said the same of Gush-Halav [both in northern Israel]" (Tosefta, Shevi'it. 7, 15, and the Babylonian Talmud, Pesahim, 53a). Corroborating the Rabbi, the Jerusalem Talmud, Shevi'it, Chapter 9, Halacha 3, said: "People eat olives until there are no more left in Meron and Gush-Halav."

The Holy Land had many varieties of olive, although only a few of them are mentioned in the old Hebrew literature. First, there was the distinction between olives for oil and those to be pickled. The several varieties were named according to the oil content, the place they grew in, or otherwise: "Every olive that has a field

name, even as the olive known as 'Netufa'. What does the designation signify? It may be just a name, or it may refer to the oil content of the variety, or to the place where it grows. The name might be either Shifconi or Beishani, its oil yield might be large or small, its place either on the side of the oil press or next to the gap" (Mishna, Peah, 7, 1).

Some of the names given to the varieties are: 1) *Netufa*. Some believe that this is a place-name; others that it is derived from the term meaning "drips oil," although it does not drip every year. 2) *Beishani* (the *Beth She'an* type). From the town of this name, but there is also a derivation from the Hebrew word "mebayesh" (to shame), as though this variety put the rest to shame with its oil content (Mishna, Peah, 7, 1). 3) *Shifconi*. Either a place name or from "pouring forth"—Hebrew "shafah"—muel oil. 4) *Nudein* or *Rudein*. Referred to in the Jerusalem Talmud, Peah, Chapter 7, Halacha 2, 5) *Agori*. known also as *Abruti*, *Avruti*, *Samruti*. "The olive which was spoken of as neither big nor small, but in-between, is the Agori" (Mishna, Kelim, 17, 8; there is mention of it also in Tosefta, Nezirut, 4, 6). The Babylonian Talmud, Berahot, 39a, echoing this variation, never-



Part of Assyrian relief showing capture of Lachish: vines, olives and date-palms. Layard, Monuments of Nineveh, 700 BC.

theless adds: "Rabbi Abahu said that its name is not Agori but Avruti or, as others call it, Samruti. But why 'Agori'? Because its oil is gathered ['egor' in Hebrew means to gather or collect] within it." It is said that this olive does not burst with juice like an apple or a berry, but that the oil is retained in it like the juice of grapes. "For it gathers its oil within itself. Namely all the other kinds of olives lose their oil when the rain descends upon them, they let their oil drip away, but this one, the Agori, when the rains come down upon it, keeps its oil safe and sound inside" (Jerusalem Talmud, Bikkurim, Chapter 1). 6) *Kluska* or *Gluska*. Mishna, Aboda Zara, 2, 7: "And the olives known as *gluska* were pickled"; and Tosefta, Demai, 5, 11: "*Gluskas* are cheap." 7) *Klopsin* are olives for eating or pickling, not for oil production. There is an allusion to them in Tosefta, Terumot, 4, 3. They may be what were likewise known as *Decapolis* olives.

The Olive in the Holy Land in Ancient Egyptian, Hebrew and Greek Literature

Reference to the importance of olive cultivation in the Holy Land may be found in ancient Egyptian records. In particular, they speak of the olive oil that used to be brought down into Egypt.

According to L. Borchardt, Pharaoh Sahure, second monarch of the Fifth Dynasty, said that "olive trees [bak] were not to be found in profusion in Egypt, whereas in Canaan they abounded"; he reported also that Egypt imported cedar wood from Phoenicia and wheat, wine and oil from Syria and the Land of Israel (Sahure, Plate III, p. 78).

In the Story of Sinuhe, about 1800 BC, the Land of Iaa (Israel) is described as: "Plentiful was its honey, many were its olive trees, and much was the fruit upon its trees" (A. H. Gardiner, "Notes on Sinuhe").

In the description of the frequent cam-



Part of frieze from ancient synagogue at Kfar Bar'am in Northern Galilee. Olive leaves decoration, 3rd-4th Centuries AD.

paiguns of the Pharaoh Thutmosis III in the land of "Retenu" (Canaan), in the period of 1483-1450 BC, there is allusion to the harvests of the land as being, in the main, grain, barley, green oil of olives (fresh oil), wine and fruits; later reports in the same writing mention "sweet olive oil and the green olive oil"; still later references tell that, from the harbours of Djahi (Israel and Phoenicia), oil was shipped to Egypt (H. Breasted, "Ancient Records of Egypt", II). Pritchard quoted the following from the despatches of this Pharaoh: "In every harbour city whither the men of His Majesty arrived, they received good bread, olive oil, wine, honey and fruits. These things were very plentiful, far exceeding what was known to the King's army" (Pritchard, "Ancient Texts").

Upon the walls of the Temple of Karnak (about 1478 BC), we find: "And His Majesty saw the land of Djahi and lo! all its gardens were full of fruit. The wines are stored in cellars and flow like rivers . . . and the men of His Majesty's army were anointed with oil of olives day after day, as is their wont during feast days in Egypt."

In the El-Amarna mural paintings of the 14th Century BC, the phrase occurs: "In Gezer, Ashkelon and Lachish there is much grain and oil" (E. A. No. 287). The Harris Papyrus (500 BC) listed, among gifts to the Pharaoh Rameses III (1198-1166 BC) oil from Syria and Israel (Breasted, *ibid.*). In the Anastasi Papyrus (IV, 14, 4), it is said that Egyptian troops demanded, among other things, "much oil from the harbour with which they will be able to anoint their bodies" (evidently imported oil from Israel and its environs).

The first biblical mention of olive is in the story of the Flood: "And the dove came in to him [Noah] in the evening, and, lo, in her mouth was an olive leaf plucked off" (Genesis, 8, 11). There is a Midrash which says that the dove brought the olive leaf back to Noah from a tree in Israel: "Whence did the dove bring the olive leaf: Rabbi Abba says: From the branches of Israel she brought it. Rabbi Levi said: From the Hill of Anointing [the Mount of Olives] she brought it, as the Land of Israel was not inundated by the Flood" (Midrash, Bereshit Raba, 33, 9).¹⁰

When the Hebrews conquered Canaan, the olive tree was among the blessings that they reaped: "And it shall be, when the Lord thy God shall have brought thee into the land . . . to give . . . houses full of all good things, which thou filledst not, and wells digged, which thou diggedst not, vineyards and olive trees, which thou plantedst not; . . ." (Deut., 6, 10-11); and again, "I have given you a land for which ye did not labour, and cities which ye built not, and ye dwell in them; of the vineyards and olive yards which ye planted not do ye eat". (Joshua, 24, 13).

The olive was then widespread in every part of the Holy Land: "Thou shalt have olive trees throughout all thy coasts . . ." (Deut., 28, 40). We note the extent of this distribution also from the circumstance that King David appointed overseers for the royal olive trees and oil stocks: "and over the olive trees and the sycamore trees that were in the low plains was Baalhanan the Gederite: and over the cellars of oil was Joash" (I Chronicles, 27, 28).

As the olive was an important food, not to be withheld from any in hunger, there was a commandment not to harvest it with completeness: "When thou beatest thine olive tree, thou shalt not go over the boughs again: it shall be for the stranger, for the fatherless, and for the widow." (Deut., 24, 20).

In the epoch of the Judges, the first famous parable was framed, the parable of Jotham, which points once more to the honoured place of the olive tree among the fruit trees of the Holy Land, for it was the first to be approached: "The trees went forth on a time to anoint a king over them; and they said unto the olive tree, Reign thou over us. But the olive tree

¹⁰ According to a Greek myth, the olive leaf was brought by the dove to Hellas from the land of Phoenicia (that is to say, from the region of Israel) and was placed in the temple of Zeus in Epirus. Thereafter, the olive became a symbol of healing and health (linked with the Grecian goddess Athene, who is the Minerva of the Romans). In Athens, the olive tree was sacred to Pallas Athene; and, to this day, peasants in Italy are accustomed to hang an olive branch on their door lintels as a talisman to drive devils and evil spirits away.

said unto them, Should I leave my fatness, wherewith by me they honour God and man, and go to be promoted over the trees?" (Judges, 9, 8-9).

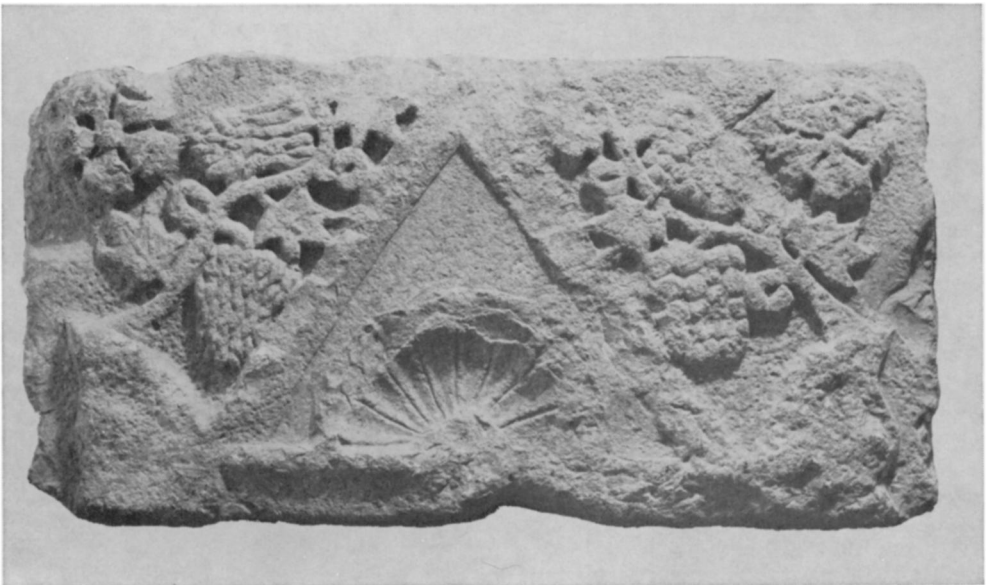
The Prophets teach us more concerning the value of the olive. "His branches shall spread, and his beauty shall be as the olive tree . . ." (Hosea, 14, 6); "The Lord called thy name, a green olive tree, fair, and of goodly fruit . . ." (Jeremiah, 11, 16); "Is the seed yet in the barn? Yea, as yet the vine, and the fig tree, and the pomegranate, and the olive tree, hath not brought forth: from this day will I bless you." (Haggai, 2, 19). There is, too, the great vision of the Prophet Zechariah—the candelabrum of gold: "And two olive trees by it, one upon the right side of the bowl and the other upon the left side thereof" (Zechariah, 4, 3). In the days of the Return of Zion, when the Holy Land was gladdened again by the exiles from Babylon, we read: "And they took strong cities, and a fat land, and possessed houses full of all goods, wells digged, vineyards and olive yards, and fruit trees in abundance: so they did eat, and were filled, and became fat and delighted themselves in Thy great goodness" (Nehemiah, 9, 25).

The Olive in the Holy Land in the Post-Biblical Period (332-142 BC)

The fruit and oil of the olive from Israel are mentioned in some Greek writings, but, generally, Greek and Roman authors do not stress the importance of the olive in the Holy Land, since its cultivation was so extensive in their own countries. There is hardly any mention by them of the import of olives and oil, quite in contrast to Egyptian writings.

Theophrastus, who lived about 300 BC, wrote: ". . . the plants which, because of the excellence of the soil in which they are grown and the sustenance in it, yield large crops, such as they say the olive does in Syria [which, in this context, includes the Land of Israel] and elsewhere" (*Enquiry into Plants*, I, Chapter XI, 4). Aristeas, an officer of Ptolemy Philadelphus (277-270 BC), stated the following of Israel: "Great is the investment of labour in farming, the land is abundant in olives, grain and a multitude of fruit trees." Zenon and Kritos, who sailed with Apollonius (257 BC), referred to the agricultural produce of Israel consigned to Egypt, including olive oil (Edgar—Zenon Papyri, 159077).

Pliny (23-79 AD, *Historia Naturalis*,



Lintel of a synagogue window decorated with a shell surrounded by vines and grape-clusters. From Dalata in Galilee. About 3rd-4th century AD.

XV, IV) tells us: "The very fleshy olives of Egypt yield only a scanty volume of oil, yet the extremely small olives in the Decapolis in Syria [ten cities in the Land of Israel and Trans-Jordan], not larger than a caper, commend themselves as possessing a fleshier wholesomeness. Imported olives are preferred for the table to the larger Italian sort, although inferior in the amount of oil they contain. . . ."

The New Testament develops a striking metaphor, which attests how familiar and obvious the olive tree was in the Holy Land in those days. It is also an indication of the art of grafting olive trees in Israel: "And if some of the branches be broken off, and thou, being a wild olive tree, wert grafted in among them, and with them partakest of the root and fatness of the olive tree; boast not against the branches. But if thou boast, thou bearest not the root, but the root thee . . . For if thou wert cut out of the olive tree which is mild by nature and wert grafted contrary to nature into a good olive tree; how much more shall these, which be the natural banches, be grafted into their own olive tree?" (Romans, 11, 17, 18 and 24).

The Olive in the Mishnaic and Talmudic Eras

On untold occasions, the Mishna and the Talmud speak of the olive and its culture, its fruit and its oil; and one may safely conclude from them that the Jews of that period were expert in olive husbandry. Many details of the working of olive plantations are found in the Mishna and Tosefta, the Talmuds of Jerusalem and Babylon and Midrashim.

During the revolt of Bar Kokhba, the Romans cut down most of the olive groves of Judaea to construct fortresses, but afterwards the inhabitants of the Holy Land returned and planted olives: "At first, when there were no olive trees, it was observed that the wicked Hadrian came and destroyed the whole Land . . . but now that there are olive trees it is observed . . . " (Jerusalem Talmud, Peah, Chapter 7, Halacha 1).

It is said of the inhabitants of the country then that they could distinguish between soils that were good for a given plantation by the smell and taste of the earth: "For they were skilled in the settlement of the

land, for they said: This one is the soil for olive trees, this one is the soil for vines, this third one is the soil for figs. As the people of the land can do it by the smell of the earth, or otherwise by licking the soil as a snake would" (Babylonian Talmud, Shabbat, 85a).

The olive tree was planted usually from suckers, without any grafting: "[Noah] took with him [into the Ark] canes for the planting of vines, cuttings for figs, and suckers for olives" (Midrash, Bereshit Raba, 31, 19). However, there is an early reference to grafting in the Mishna: "One plants vines and another plants five fruit trees and perhaps even of the five species [among them the olive]. One plants and one layers and one grafts" (Mishna, Sota, 8, 2). "What are olive trees? There is no grafting with them" (Jerusalem Talmud, Kelaim, Chapter 1, Halacha 7).

There is an interesting allusion in the Mishna, also, to the time between actual grafting and its "take": "Rabbi Yahuda says—every graft which does not take after three days does not take at all, while Rabbi Simon says—after two Sabbaths [two weeks]" (Mishna Shevi'it, 2, 6). Tosefta, Kelaim, also mentions the grafting of olives.

Actually, olives were planted close together at the outset and, after a number of years, they would be thinned out into wider spaces; they were sometimes interplanted with other fruit trees, or grain might even be sown among the trees. This practice was disputed by scholars and farmers: ". . . strips of cereals grown amidst the olive trees . . . the House of Shammai advises—make them continuous; and the House of Hillel interprets—space them widely" (Jerusalem Talmud, Peah, Chapter 3, Halacha 1). And as to cultivation: "Olive groves entering their seventh year are cleared of stones, pruned, their cavities are filled with stones and covered with earth [treatment of decaying trunks] and basins are made from one to the other [for watering]" (Tosefta, Shevi'it, 3, 7). "Olives grown in irrigated groves sold at the portals of the bath houses" (Tosefta, Aboda Zara, 4, 8, it will be remembered, alludes to this expensive pickling variety).

Treatment of diseased trees is likewise dealt with: "The trunk is painted with a

red paint [sulphate of iron] and it is filled with stones" (Tosefta, Shevi'it, 1, 10). It was common knowledge that the olive is affected by diseases which cause the decay of the trunks, so that old hollow olive trees were daubed with red paint [sulphate of iron],¹¹ and the hollow trunks were filled with stones in the belief that passers-by would pray for their restoration to health: "A tree that sheds its fruit is painted over with red [paint] and filled in with stones; the stones hold the tree in place, and the red colour is so conspicuous that it attracts the attention of wayfarers and they ask for mercy upon it" (Babylonian Talmud, Shabbat, 63a, and Hullin 77b). "They treat the trees [smear the trunks with oil and dung to keep noxious insects away] and they wrap them round [with leaves or something else of the kind to protect the trunks from sun-rays or from the cold] and they top them so as to renew the growth, and they make little basins for them, for the watering, and they water them until the New Year" (Mishna, Shevi'it, 2, 4).

How to renew the growth of olive trees and to thin out an overcrowded grove was no secret: "About the thinning out of olive trees—the House of Shammai says that he shall cut them down [but leave the root in the soil], and the House of Hillel says that he shall uproot them" (Mishna, Shevi'it, 4, 4). "Whoever cuts down an olive tree shall not cover it with earth but shall cover it with stones or straw so that it may heal" (Mishna, Shevi'it, 4, 5).

The olive tree did not shed its leaves in winter: "What is the olive? It does not shed its leaves in summer days and not in the season of rain" (Babylonian Talmud, Menahot, 23b). It was likewise known that a cold north wind at the time of flowering did much damage, while a southern wind was good for fruiting: "A north wind is hurtful to the olives at the time when they set; a southern wind is good for the olives at that same time" (Babylonian Talmud, Yoma, 21b).

As to the length of time between flowering and ripening, our talmudic sages likened

fruit trees to animals. Speaking about the olive, they have this to say: "A clean animal is nine months in gestation and among trees so is the olive" (Babylonian Talmud, Bekhorot, 8a). The olive tree, then as now, begins to yield fruit in fair quantity in its seventh year. "What is this plant? Grapes come to full bearing in five years, figs in six, and olives in seven" (Tosefta, Shevi'it, 1, 3).

All these truths the ancient wise men had established, and they likewise pointed out that olives were harvested only at one time and not, as with some other fruit trees, more than once a year: "Rabbi Nehemiah (referring to picking) says: Of what are we speaking? Of a tree which gives two crops, but there are trees which only give one crop, such as the olive, the date and the carob" (Tosefta, Shevi'it, 4, 20). Trees which yielded two "seahs" (about 15 kilograms of olives) were regarded by them as fruitful: "An olive which yields two 'seahs' can be picked and not left to the poor" (Mishna, Peah, 7, 2); and they were aware that both the variety and soil are the main factors in the fruitfulness of the olive tree: "If olive trees are washed down into the neighbour's field and the trees yielded less than a quarter to the 'seah' (1% of oil): one will say, my trees produced the oil, and the other will say, my soil was responsible—and there is an altercation" (Mishna, Baba Metzia, 8, 5).

Experience had shown that olives do not bear regularly and abundantly year after year: "The olive yields fruit one year but not the next" (Jerusalem Talmud, Shevi'it, Chapter 1, Halacha 3). The season for the harvesting of olives came after the grapes had been gathered: "The vintage had gone out and the olive harvest come in" (Jerusalem Talmud, Yebamot, Chapter 15, Halacha 2).

The main harvesting of oil-olives was after the first rains (December-January): "The rains come down upon them and their oil is almost oozing out" (Jerusalem Talmud, Bikkurim, Chapter 1, Halacha 3). Olives for eating were gathered before oil-olives: "Rabbi Yahuda said, For it is a fact that they do not gather their olives until after the second heavy rains [in the month of Heshvan]" (Mishna, Peah, 8, 1).

The olives were—as indeed they still

¹¹ In certain Arab villages in Galilee, farmers still paint or spray their olive trees with sulphate of iron as a preventive of mistletoe and plant diseases.

mostly are—gathered by hand or by beating or shaking the branches. There was considerable difference between olives picked by hand and those knocked down: the former were much better for eating but had less oil, because they had been gathered too soon; while the latter were not quite so good for pickling or for oil, because they had been bruised: “Hand-picked olives which were mixed with beaten olives” (Mishna, Hallah, 3, 9). “Our ancestors used to pick their olives with care and affection” (Sifri, 184). “What is this olive? As long as it is on the tree, it is picked one by one but later when the olives are overripe they are shaken down from the tree” (Midrash, Shemot Raba, 36, 1).

How important the olive tree was in the fiscal system of the times may be gleaned from this: “And among the trees . . . walnuts, almonds, vines, pomegranates, olives and dates are liable to peah [a levy]” (Jerusalem Talmud, Peah, Chapter 1, Halacha 4).

The belief was prevalent that eating olives causes forgetfulness but that the oil strengthens the memory: “Just as the olive makes one forget the learning of seventy years [if one eats them to excess], so olive oil restores that learning” (Babylonian Talmud, Horayot 13b).

The historian, Josephus (95–23 BC), mentioned olive cultivation and that from Galilee, its centre, much oil used to be exported: “. . . and produces all kinds of fruits, and its plains are planted with trees of all sorts, while the olive tree, the vine and the palm tree are chiefly cultivated here” (The Wars, Book III, Chapter 3, 3). Writing on the Valley of Ginossar: “. . . particularly walnuts which require the coldest air flourish there in vast plenty. There are palm trees which grow best in hot air; the fig trees and the olives grow near them, which yet require an air that is more temperate” (Wars, Book III, Chapter 10, 8). It is interesting to learn from this that the Hebrews of old had a full understanding of the relative requirements of heat and cold which the various fruit trees needed, and the quotation emphasizes that the olive required some cold to bear well and regularly.

Josephus expounded the various uses to which olive oil was put in the wars, and how boiling oil was poured upon the Romans

as they stormed forward to the assault upon the walls of Jewish cities: “and gave orders to pour scalding oil upon those whose shields protected them. Whereupon they got it ready, being many that brought it and what they brought being a great quantity and poured it on all sides upon the Romans, and threw down upon them their vessels, as they were still hissing from the heat of the fire” (Wars, Book III, Chapter 7, 28).

Olive oil was one of the foodstuffs stored up preparatory for a siege: “For here was laid up corn in large quantities and such as would sustain man for a long time; here was also wine and oil in abundance”¹² (Wars, Book VII, Chapter 8, 4).

The Olive from Arab Rule (636-1098 AD) to Modern Times

The growing of olives was not interrupted during the rule of Roman Byzantium, but the wandering tribes that came from the Arabian Peninsula destroyed many groves; and it was only when they settled in the Holy Land that they learned to value the tree.

In the Travels of Bishop Arculf (680 AD), we find: “From Jerusalem to Caesarea is a plain and in it are olive groves . . . Some vines and olive trees are to be found on the Mount of Olives and also in Bethany there is a great field and within it a large grove of olives.” In the Travels of Willibald (721–727): “Samaria is blanketed with olive trees.” The Arab voyager, Ibn Hokl (978), wrote of Hebron: “On its mountains are olives and figs. All the other fruit trees are fewer in number.” The Arab geographer, Al-Mukadassi (985): “In Acre and its surroundings are great olive groves which yield a multitude of fruit from which much oil is expressed—far more than the city needs.”

In his list of exports from Israel, al-Mukadassi referred to olives, olive oil and soap (made from olive oil). The Persian

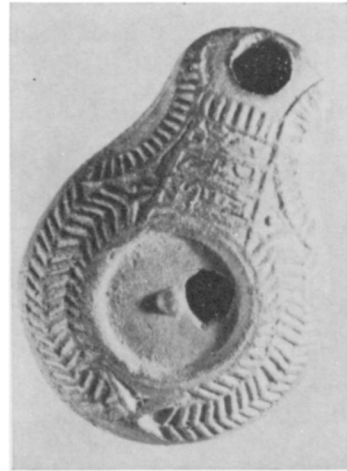
¹² Eusebius of Caesarea (260-340 AD), who lived in Israel and knew it well, described Samaria as a rich country planted to olive trees. Antoninus (Antonius) Placentinus (Martyr), who was in the Holy Land from 560 to 570, confirmed this, adding that the Nazareth district is prolific in wine, oil and honey, and the surroundings of Jerusalem likewise.

traveller, Nasr-el-Khusrau (1047), emphasized the importance of the olive in Israel and Syria and the export of olive oil from those countries; of Kfar Saba he said: "I saw many fig and olive trees in it"; while of Hebron: "It has many olives and the citizens give visitors bread, olive oil and raisins." He continued: "All the outskirts of Jerusalem are mountains covered with olive trees and figs . . . there are plantations that produce 16,800 gallons of olive oil a year, and all is sent to other countries"; and of Ramla: "It grows olive trees and figs and the townspeople store the oil in cisterns and even export it to the neighbouring countries."

Coming now to the Crusader Period (1099-1291), we find the Russian Bishop, Daniel (1106 and 1107), speaking of Hebron: "The number of vineyards on the slopes of the hills is considerable and in the valleys fruit trees are numerous—the olive, the carob, the fig, the apple, the cherry, the grape and all other varieties." Jerusalem is cited by him for its olives, and he pointed out in particular that in the region of Bethlehem olives were grown extensively. There is, too, his remark that "the land of Samaria is wonderfully rich in all that is good—in olive oil, wine, grains and different trees of fruit."

Rabbi Benjamin of Tudela (1170) wrote likewise: "Samaria is a land of streams and gardens and groves and vineyards and olives."

When they invaded Jerusalem, the Crusaders stripped the olive groves all the way from Jerusalem to Shechem (Nablus) to supply material for battering rams used against the walls of the Holy City, and the manufacture of oil there declined in consequence; this we learn from Archer's account of the Crusades. William of Tyre (1130-1190) wrote: "All the Brook of Moses and its neighbourhood are full of rich olive trees which, with their thick vegetation, cover the whole face of the land." He mentioned also the large plantations of olives around Ramla and told how the Crusaders found there much store of wheat, wine and oil. Concerning Jerusalem, William remarked: "Though Jerusalem was strewn with rocks and stones, extensive plantations of olives, figs and vines are



Samaritan lamp of the 4th-5th Centuries AD decorated with a triple wreath of olive. (By courtesy of the Israel Department of Antiquities and Museums.)

to be seen there." Baudouin III used to pass through woods of olives in western Galilee, and the fields of Nazareth were farmed once more and were rich again "as in bygone days," in wheat, olives, cotton and vines.

Al-Idrissi, an Arab writer (1159), describing the coast from Jaffa to Ashkelon, said: "And there are many tilled fields and in them olives and vines in plenty." Geoffrey de Vinsauf told of the Crusader forces that were encamped in 1191 in the vicinity of Jaffa "within an olive grove." Jacques de Vitry, Bishop of Acre (1210-1240), wrote: "Jerusalem is flowing in milk and honey, rich in grain and in its wines and its olive oil and all the other good fruits." Jacobo di Verona (1230), in his book of travels, reported: "Nablus is a pleasant, an agreeable and a fruitful city . . . surrounded by great groves of olives, and it possesses more oil than any other city in Syria and the Holy Land." "Hebron in its beautiful valley is also surrounded by trees and gardens in which are olives, figs and vines." "Beneath the fortress of Safad is a beautiful city which, too, is called Safad . . . and in it there are olives and figs and vines." "Bethlehem . . . on its lovely hill-top, and about it are vineyards and groves of olives and of figs." "Shiloh—we reached a beautiful valley full of olives and good things."

In the Mameluke Period (1250-1570), the

olive held tenaciously to its agricultural preeminence, and its oil was still sought by foreign lands. Al-Damashki (1300) wrote of Shechem: "There are soap factories in it and they export their wares to all countries even as far as Rome."

Abu-el-Fida (1321) recorded of Hebron: "The trees on the hills, as in the other parts of the country, and its valleys, are olives, figs and carobs." Sir John Mandeville (1322) wrote: "The Mount [of Olives] is called thus because it is covered with many olive trees." Al-Omri (1347), writing of the Convent of the Cross in Jerusalem, stated "It is built within a very sea of olives, vines and figs." Ibn Battuta, another Arab historian (1325-1354), wrote: "They say of Shechem that it has more olive trees than all the other cities of Syria"; and "They export olive oil from the Land of Cairo and also to Damascus."

Rabbi Ashtori-ha-Parhi (1322), in his book "Kaftor Vaperah," said that in Jerusalem there was an industry of pickling olives and that there were very many olive groves in the country; he paid special heed to those near Safad. Al-Othmani (1372), in a history of Safad, spoke of the villages of Upper Galilee—Saur and Araba, as "inhabited villages with much olive oil in them." Felix Fabri, who visited the Land of Israel several times (between 1480 and 1483), had much to say of the Mount of Olives: "I went up through a close full of olive trees to the uppermost ridge of the Mount . . . It was called the Mount of Lights, because oil, the food of lights, grows here abundantly. Therefore, it is also called the Mount of Olives which grow there in abundance of their own accord with no planting. The oil thereof is used to this day to fill the lamps in the Temple of the Lord. There are olive trees so huge and so ancient that I believe that some of them have been there since the time of Christ even unto our own times." Of Bittar, near Jerusalem, Fabri said: "This garden was planted by King Solomon and in it are vines, walnuts, oranges, pomegranates, figs, olives and apples." Of Bethlehem: "The land around is very rich and is abundant in grain, oil and wine." Of Hebron: "Here among the terraces there were once vineyards and olive groves . . . and now there are only thorns," and of the

valley of the Monastery of Sinai: "There is a garden here and three thousand olive trees in it."

Rabbi Obadiah of Bertinoro, the renowned Jewish traveller (1488), when he pictured the route from Bethlehem to Jerusalem, said: "All the way is full of vineyards and olives."¹³ Muj'ir ed-Din al-Hanbali (1496), in an account of Shechem, said: "In it are many springs and fruit trees and the most frequent amongst the fruit trees is the olive."¹⁴ Rabbi Moses Bos-sola of Ancona (1521-23) talked of Safad: "The town is full of all that is good and excellent eatables such as grain, wine, olive oil [are] in abundance and inexpensive. The buyer can have everything in its season, and, if it were not for the great volume of oil and grain that is taken from there to Damascus and other places, all this produce would not be worth anything." And of Ein-Zeitim: "And there is a great field of olive trees."

Pierre Belon (1553) said of Gaza: "Gaza is situated in a region rich in figs, olives, jujube, apples, pomegranates and vines." Of the route from Bab-el-Wad to Jerusalem: "On the western slopes there grow vine, olive, fig and pomegranate"; and of the environs of Jerusalem: "The people are skilled in working the vineyards and they also grow apples, almonds, figs and olives which yield much oil." He had a word also on the treatment of mistletoe, which does much damage to the olive trees.

Dr. Leonhart Rauwolff (1575) described the road from Ramla to Jerusalem: "On both sides of the way are many old olive trees and vineyards"; and the road from Bethlehem to Jerusalem: "A land full of olives and figs." Rabbi Solomon Shlomil Meinsterl wrote in a letter from Safad in 1607: "Even in its ruins the town produces fruit and oil and wine and silk as against a third of the world, and people

¹³ In this quotation and in subsequent quotations from Jewish travellers, I use "Letters from the Land of Israel" and "Travels in the Land of Israel," both in Hebrew, by Abraham Yaari.

¹⁴ And he spoke of the Prophet Mohammed preferring four cities above all others—Mecca for its excellency, Medina for its date palms, Jerusalem for its olives (*ez-zaitouneh*) and Damascus for its fig trees.

come in their ships from the ends of the earth, from Venice and Spain, from France and Portugal, from Constantinople, and demand grain and olive oil, raisins and dried figs, honey, silk and soap, like sand on the seashore." George Sandys (1610) laid special stress on the many olive trees that grow in Gethsemane, on the Mount of Olives and on Mount Carmel. Samuel Ben-David the Karaite, of the Crimea (1641), also lauded Shechem: "In Shechem they boil a great deal of very good soap, like the soap of Jerusalem," and he mentioned the olive groves of Jenin also.

De Monconys (1647) wrote that between Jaffa and Ramla there are good lands planted with many olive trees, and around Jerusalem a landscape of rocks and stones, but among them, nonetheless, groves of vines and figs and olives. Of the Mount of Olives, he said: "In front of the cave, there is an olive grove and in it nine ancient trees, and there are those who claim that they are relics from the days of the Nazarene." And again: "In Bethlehem and Shechem, too, are many large plantations of olives, and in general it has to be said that in this Land are great quantities of olive oil." And finally: "In Kfar Cana there are olives, figs and mulberries for making silk, and so too in Ramla and its neighbourhood there are very many olives, and the oil is exported through Caesarea."

M. I. Doubdan (1651), in his book of travels, remarked:

"Anatot [where Jeremiah lived] is utterly despoiled of olives and carobs and other fruit trees; in Modiin [birthplace of the Maccabees] there are olives and carobs; in the Judaeen hills there are olives and oaks, and olives in the Brook Kidron and Bethlehem, in Jericho and elsewhere."

Henry Maundrell (1697) lamented the destruction of the Holy Land, which, in days of old, provided all the necessities of the Twelve Tribes of Israel, and he asked why it cannot again yield grain, wine, oil and honey. For all that, he could still mention olive groves in different parts of the Land.

Rabbi Gedalia of Semiatyez, who lived in Israel in 1700-1706, wrote: "Olives are so plentiful that they make oil of them for lighting, and the only lights they use

are lights of olive oil."

Thomas Shaw (1738), like Maundrell, asserted that the Holy Land could again, as it once did, furnish its inhabitants and the surrounding peoples with grain and olive oil. It is true, he added, that the olive is more widespread than the vine, for the authorities do not allow vineyards to be planted, lest the inhabitants use the grapes to make wine, which is forbidden for Moslems; and also because the vine requires great and constant care, whilst the olive is content with little and is better liked, as it lives longer and is less attacked by plant diseases. Moreover, the olive is cultivated for the medicinal properties of its oil; especially efficacious is a mixture of olive oil and lemon juice employed by the inhabitants, he writes further, which dissolves stones of the kidney. He, too, mentioned the olives in the garden of the Sinai Monastery, in which there grew also plums, almonds, grapes, apples and pears.

Richard Pococke (1743) was greatly taken by the making of soap from olive oil. The main industry is in Jaffa, but there is also manufacture in Jerusalem, Ramla and Lod; it is all called "Jaffa soap" and, in the main, is exported to Egypt. Of Jerusalem, he wrote: "The place was formerly covered with olive trees but it is now without any improvements, and anyone who sees the desolate country about Jerusalem wonders what a sad alteration all these parts have undergone since the time of Josephus who says that the whole territory abounded in trees." "In the Vale of the Crown—gardens planted with olive, fig, apricot and almond trees; it is the pleasantest spot about Jerusalem, and the Jews frequently come out there on the Sabbath to divert themselves."

Dr. Frederick Hasselquist, the botanist, who visited the Land in 1749, and on three subsequent occasions, wrote: "In Jaffa, I ate olives which were the best kind I have tasted in the Levant, being such as Palestine, always famous for olive trees, affords." He saw olives in Ramla, too: "In these places, we have five vales abounding with olive trees . . . and [they] produce large quantities of soap." Of Bethlehem: ". . . produced little else besides some olive trees—the best of these were de-



Roman tomb (from Beth-Sheoan). Hare hunt and olive tree.

stroyed some years ago in a conflict the Bethlehemites had amongst them."

Van Egmont and John Heyman (1759) discussed the cultivation on Mount Carmel: "Here olives are also cultivated but the people do not know how to pickle them as well as they do in Provence and Languedoc. They put the olives in jars and simply add salt to them"; and as regarded Nazareth: "Here there are only a very few trees to be found; all of them were uprooted in times of war and feud, but lately the groves of olives and figs and vineyards have begun to multiply."

The Abbe Mariti (1767) wrote of Jeiddin in western Galilee: "A valley surrounding, with excellent fruits, such as the olives, almonds, peaches, apricots and figs." And he alluded to the olives in Sepphoris and to the Valley of Sharon: "... plantations of old olive trees, each of which is so large that two men could not embrace them with their arms. The olives produce only once

in two years. They are pruned by the hand of Nature alone . . . I observed in this respect that the olives are never cut in any part of Palestine."

M. C. F. Volney (1783, 1784 and 1785) wrote of Acre: "We still find among the brambles wild vines (neglected) and olive trees which prove that industry has formerly been employed on this ungrateful soil . . . In the Nablus area, the soil is tolerably fertile, and produces a great deal of corn, cotton, olives and also some silk . . . In Bethlehem, the soil is best of all the districts; fruits, vines, olives and sesame succeed extremely well but cultivation is wanting." Of Hebron: "Groves of fig trees, oaks and a few plantations of vines and olive trees." Of Ramla: "Soap manufactory, which is most sent to Egypt," and of Jaffa: "The country beyond abounded in olive trees, as large as walnut trees, which are being cut down."

Edward D. Clarke (1801) described Acre as rich in grain and olives, saying that in every city in Israel there is a soap factory and that there are olives and soap factories in Shechem. And of the Mount of Olives: "We found a grove of aged olive trees, of most immense size, covered with fruit, almost in a mature state." Whether the olive trees in Jerusalem are of the same types as those grown in Europe, it was hard for him to determine: their leaves are somewhat broader and their nether surface is more silvery. He noted that, in the course of two thousand years, Jews, Romans, Moslems and others had successively possessed the rocky mountains of Palestine, "yet the olive still vindicates its paternal soil and is found at this day upon the same spot on the Mount of Olives."

Ali Bey (1807) referred to the export of soap from Shechem to Egypt: in many hill villages through which he passed he was told that the olive trees yield abundant fruit, especially after a snowy winter.

Charles L. Irby and James Mangles (1816) were struck by the forest of olives between Gaza and Ashkelon, a journey of two hours amidst olive groves.

William R. Wilson (1824) described the olives on Mount Olivet thus: "There are seven olive trees of enormous magnitude remaining and separate from each other,

said to have been in existence since the time of our Lord. These are highly venerated by the Christians, who consider any attempt to cut or injure them as amounting to an act of profanation"; and added that the olive stones were used for the making of prayer beads.

Rabbi David d'Beth Hillel (1824) wrote that, in Jerusalem, "there are many factories for making soap from olive oil which is the finest of its kind because of its perfumed odour. The best kind of soap is called in Arabic 'al misq' and is exported to Egypt and all neighbouring countries . . . In Jaffa, too, there are factories which make soap from olive oil but it is not as good as the Jerusalem product . . . The Arabs told me that many of the olive trees have survived from the days of Titus and that this plain furnishes oil for most of the inhabitants of the Land of Israel."

E. Robinson and E. Smith (1833) observed that the making of soap was one of the most important industries and of considerable antiquity. At Easter, great quantities of perfumed soap were sold to pilgrims. In Bethlehem, olive trees were numerous, and souvenirs were carved from their wood. Groves existed in most parts of the country, some of large dimensions.

J. A. Spencer (1850) was as extravagant regarding the groves mentioned by Irby and Mangles twenty-four years later. "We entered the most extensive groves of olive trees, the largest which I have ever seen—for two hours we passed through these beautiful groves"; and he made similar reference to groves in other places.

F. de Sauley (1850-1851) was particularly interested in the olives of western Galilee, Samaria and Judaea. Of the Brook Kidron, close to Jerusalem, he wrote: ". . . the left bank is planted with olive trees of unquestionable antiquity, certainly earlier than the period of our Lord." He found much to criticize in the customs of the inhabitants of the Holy Land, who revenge themselves on one another by stripping the bark and destroying olive trees.

C. W. M. Van de Velde (1851-1852) said that the main export of Israel was soap, and he was entranced by the beauty of the great olive tree; according to him, the groves at Lod were the finest in the Land.

Hammer L. Dupuis (1856) remarked that it is, of course, known that the olive is long-lived, but he questioned whether there still exist in Israel trees old enough to have escaped the axe of Roman and succeeding conquerors. He concurred that the trees of his day might be offshoots from the crown or from the deep roots. He mentioned olive oil among the agricultural exports and added: "Olive oil is produced in great abundance, as may be conceived from the number of trees—known as the gift of the Land to the descendants of Jacob."

W. M. Thompson (1857) pictured the surroundings of Ramla as forested with olive trees: "There are thousands of olive trees so completely enveloped in thorny jungle that man cannot gather even what grows on them. If this jungle were only cleared away and the land properly dressed, we should at once double the crop. The people are afraid to increase the number of bearing trees, lest their taxes should also be raised upon them. Thus a bad government paralyzes all desire to improve."

The first European oil presses were introduced into Shechem (Nablue). The oil from them, Thompson said, is the purest, and they express 30% more oil than the primitive local presses; he described the antiquated presses, and discoursed on the manufacture of soap, mentioning many factories in Jaffa, Ramla, Lod, Shechem and Jerusalem, whence most of the soap went to Egypt and to Asia Minor.

H. B. Tristram (1866) was persuaded that by far the richest region of olive groves was in Ephraim, through which he rode for many hours under the shade of the trees. He found it more intensively cultivated than other parts of the country and singled out the olives of Shechem, of Shiloh on the way to Jerusalem, of Hebron and of Hittin.

Doctor Lortet (1884) mentioned olives in every part of the Holy Land—Nazareth, Jenin, Shechem, Hebron, Jaffa and so on, and the making of soap in Shechem from olive oil, embellished with designs, renowned throughout the country.

The Olive in Recent and Modern Times (1875-1962)

There were two periods of splendour for the olive groves of Israel. The first, as al-

ready mentioned, was when the Jews first dwelt in their Land lasting until the end of the era of Rome's dominance. Thereafter, a decline set in. In the 4th Century, during the hegemony of Byzantium, taxes were heavy, amounting often to one half of the olive harvest. This burden and the lack of security compelled growers to neglect plantations; deterioration persisted during Arab suzerainty (636-1098) and all through Crusader (1099-1292) and even Mameluke (1250-1517) times. The monk, Felix Fabri, who traversed Israel at the end of the Mameluke regime between 1480 and 1483, wrote: "It would be a good and fertile land were there any people to cultivate it and dwell in it, for indeed the greatest part of the Holy Land is a desert."

During the four hundred years of Turkish rule (1517-1917), there was a slight expansion of olive cultivation, because the onerous taxation was abolished and, for a while, there was greater security along the highways of the Holy Land. There was an increase of population, and many of the inhabitants began to set out new plantations, olive groves among them.

The second "boom" period occurred in the days of the British Mandate (1920-1948). It was then that the olive took on a more commanding place in farming, especially with Arabs, who realized that it was lucrative and a very important source of both food and oil. Considerable quantities of olive oil and of soap were exported from Palestine in that period: in 1946, for example, the export of oil came to 1,275 tons and of soap to 1,100 tons.

In 1925, the area cultivated with olives amounted to 200,000 dunams.¹⁵ By degrees, new groves were planted; and, by 1935-36, the area had risen to 500,000 dunams, from which there was a yield of 16,000 tons of fruit, part of it going to produce 3,000 tons of oil. In the following year, a bumper one, the yield of oil came to 9,000 tons.

Towards the end of the Mandate (1946-47), the area was 615,000 dunams, producing about 24,500 tons of olives. In 1945-1946, when the harvest was again exceptionally good, the quantity of olives was 80,000 tons, of which part was pressed, yielding 10,000 tons of oil.

¹⁵ A dunam is one-tenth of a hectare.

The overwhelming majority of the groves—almost 98%—were in Arab hands; the tiny remainder, chiefly of pickling olives, was cultivated by Jews. The Arab groves were concentrated in the region of Shechem (126,000 dunams), Tulkarm (97,000), Jenin (85,000), Ramallah (82,250), Acre (57,000), and Jerusalem (30,000), and most of them were planted inland, on mountains and hillsides where rains are more plentiful. The Arab growers favoured the dual purpose varieties, which were used mostly for oil, and some were also pickled, to be eaten: the chief varieties were Suri, Nabali and Malisi.

The monasteries introduced European varieties, and some of these eventually made their way into nearby Arab villages.

In the pioneer Jewish farmsteads, olive planting had already begun at the end of the 19th Century. Baron Edmond de Rothschild encouraged the planting of trees of many kinds—the olive included—in Jewish hamlets which he founded or aided. There were local varieties, as well as European kinds, introduced from France, Spain and North Africa. The first groves were planted in 1890-1905 in Samaria (Zichron Yaacov), Judaea (Ekron, Rishon le-Zion and, less so, Gedera) and Galilee (Rosh Pina).

The second phase of olive culture in the Jewish sector took place in the years 1910-14, which witnessed the establishment of groves in lower Galilee (Yavniel, Sejera, Poriya, Betania and elsewhere). All of these left few survivors, for many were long neglected. Other reasons were unsuitability of the exceedingly heavy soil; ravages of plant diseases and pests; in certain places, groves were not very profitable, so, in many Jewish villages, new crops began to appear which gave larger returns on money and labour invested (e.g., citrus, grapes and others).

At the start of the 20th Century, the organizations for Jewish settlement in Palestine also set about enlarging their interest in the olive. Groves were planted in Ben Shemen (1910),¹⁶ and in Hulda in the same

¹⁶ In 1904, a modern oil press was set up in Ben Shemen—the name is appropriate enough (the Son of Oil)—the olives being transported to it from the Arab olive groves in the neighbourhoods of Lod and Ramla.

year, in Merhavia two years later, and after the First World War in the Valley of Esdraelon as well (1923), in the Jordan Valley, in the Valley of Beth She'an (Scythopolis) (1925). Most of the varieties used in these plantings were of the pickling kind.

At this time, or thereabouts, new varieties were brought in. Aaron Aaronsohn, the famed discoverer of wild wheat, introduced a number of varieties in his Experimental Station at Athlit. The Mandatory Government imported varieties from California, France and Italy, and tried them out in Experimental Stations in Jerusalem, Shechem, Ein Arub and Farradiya. The Settlement Department of the Jewish Agency was also host to "immigrant" varieties, particularly pickling olives.

From among the newcomer varieties of that time, the Jewish growers took to Manzanillo, Mission, Sevillano and Ascolano. Merhavia, Broza, Sdeh Eliahu 5 and Nuovo de Sierone were also adopted then from several sources. Since the State of Israel was established, from 1948 onwards, the Government Agricultural Research Station has introduced, from Greece, good varieties of black olives for pickling, of which Kalamata and Konservolea are of particular merit.

Within the boundaries of the new State of Israel, it is estimated that there were from 140,000 to 150,000 dunams of olive groves, most of them unirrigated. Of that total, 70,000 dunams were in Arab villages, 10,000 in Jewish; the rest were groves of Arab owners who had fled the country. A fraction of the abandoned groves were rehabilitated by the Custodian of Abandoned Property as the years went on, and passed into the possession of Jewish farmers who founded their new homes beside them. In the first years of new Israel's existence, the annual olive crop amounted to 12,000 tons of an average; five-sixths of it were used for making oil, and the rest was preserved. After that promising commencement, the groves in certain areas suffered, and the

area was diminished. Those in the Coastal Plain were neglected and finally uprooted; in their place, other fruit trees, better suited to the area and its soil, were planted. In 1961, there were left only about 100,000 dunams of oil olives and 4,500 dunams of pickling olives. Between 1958 and 1961, the annual yield has fluctuated between 7,000 and 20,000 tons of olives, including from 3,500 to 5,000 tons of pickled fruit; the annual average in that period has been between 3,000 and 4,000 tons of oil in good years and 1,000 tons in lean.

As far as the coming years can be foreseen, there is no doubt that Israel will continue to satisfy its entire domestic requirement in preserved olives and will export some to countries where olives are not cultivated. As for oil-olive plantations, it may be supposed that the residual groves in the level hinterland and the Coastal Plain will be sacrificed without pity and replaced by more remunerative plantations, or by field crops, to a very considerable extent. But on high and hilly ground, cooler and wetter, and where regular and, on the whole, rewarding crops are guaranteed, an interest in oil-olive plantations and even an extension of them will continue. For no other plantations are likely to oust them. Olive growers all over the world are under no illusion as to the costliness of olive oil in comparison with the oils of other plants, mainly because harvesting, which means fifteen to twenty days of work per dunam, is so expensive, and on account of the constant threat of plant diseases and pests. Nevertheless, considering the advances in methods of cultivation, possibilities of mechanical harvesting and improved attention, all calculated to ensure lower costs and higher yields, it is hoped that profits from olive oil will rise.¹⁷

It is not too sanguine, therefore, to expect that the olive and olive oil will continue to be a sound livelihood for the grower, just as the olive itself ages ago served as a symbol of plenty, peace and serenity.

¹⁷ The area in 1964/65 had dwindled to less than 100,000 dunams (including 6,000 dunams of pickling varieties under irrigation), which yielded about 15,000 tons.



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The History of the Date through the Ages in the Holy Land¹

ASAPH GOOR²

Introduction

The cultivated date (*Phoenix dactylifera* L.) has existed in the Holy Land at least since the Neolithic Age (6000-4000 B.C.), perhaps even before, when ancient man first took to sedentary life in Jericho, all along the banks of the Jordan and in the neighbourhood of the Dead Sea.

Because of their superior fruit, date palms of the Jordan Valley were famous throughout the length and breadth of the countries of this palm. There were palms along the coast as well, less important in that respect but tremendously impressive in their towering grandeur.³ The northern littoral of the Holy Land was known as Phoenicia, and it may be that we have here the origin of the early name of the date in Greek, 'phoenix.' Pliny, in his *Natural History* (XIII, IX, 42), theorizes that 'phoenix' comes from the name of a fabled bird of Egypt—according to Herodotus, it is a bird of Arabia, but, according to Philostratus, a bird of India. The legendary phoenix cremated itself, yet lived on, or a second one arose from its ashes: exactly as a palm goes on growing after it is scorched on the outside or puts forth shoots at its base, perpetuating the date culture. The date palm is, indeed, regarded as a symbol of immortality, but it is a matter of speculation whether the bird was named for the tree or the tree for the bird. At all events, for the ancient Greeks and Romans, this northern stretch of

Palestine was the 'Land of the Date,' Phoenicia.

Origin

The source of the cultivated date is still unknown: some say northeast Africa; others say Asia—in Iraq⁴ and India, with its centre on the Persian Gulf; others, again, the Arabian Peninsula. Vavilov writes: "The origin of the date is in the mountains of northeast Africa, Ethiopia and Eritrea," whence it crossed to Egypt, North Africa, Israel and the countries more particularly identified with it—Yemen, Iraq, Northern India. Post gave an area from "North Africa through the Arabian Peninsula to northern India." Serranus, Olivier de Marseille and Johannes Eurenus, botanists of no less authority, ascribed the origin to Israel.⁵

A distinguished Jewish botanist, Warburg, in his *The Scientific Work of Aaron Aaronsohn* (1944), considers that the origin was along the banks of the Jordan and in the proximity of the Dead Sea, as the wild date is a denizen of rock-crevices and hill-sides in that region.

Ancient Hebrew literature refers to the wild palm, with its short leaves. The Mishna (Sukkah, 3, 1) speaks of wild palms near the Mount of Iron,⁶ not far from the Dead Sea and north of the Arnon, and authorizes their branches as ritually acceptable for

¹ Rendered from the Hebrew by Mare Nuroc.

² Ministry of Agriculture, Jerusalem, Israel.

³ It should be observed that from Haifa northwards, and also slightly to the south, the coastal palms yield an immature fruit, because there is not enough heat for ripening. In Jaffa, however, further south, and especially round Gaza, the fruit ripens but, even here, only in certain soft-date varieties which do not require many heat units.

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⁴ It is of interest that the Hebrew name of the Tigris, which flows through a region that was and still is an important centre of date-cultivation, is Hidekel, and the second half of that name is plainly the Hebrew word for date; in Sumerian 'ideklat', and in Aramaic 'deqlet'.

⁵ See *Fruits d'Outre Mer* (February, 1953), P. Munier, Sur l'origine du Palmier.

⁶ Mentioned by Josephus, Wars, Book IV, VIII, 2, a place in Trans-Jordan "stretching out to the Land of Moab."



Fig. 1. Date seedlings on the river Jordan.

thatching booths at the Feast of Tabernacles. But it is very probable that the wild palms in question were trees that had escaped or were perhaps truly wild, all the way from India to West Africa.

Nor is there unanimity as to the forebears of the date as we know it. One view suggests *Phoenix sylvestris*,⁷ a wild date of great age in the region of the Persian Gulf and as far as India; *Phoenix reclinata*, from Africa, and the prickly variety, *Phoenix spinosa*, are also claimants.

For thousands of years the palm and its date were highly valued by the inhabitants from India through North Africa to the Atlantic Ocean; it was a sweet fruit and, fresh or dried, fed them in all seasons, a part from the profit of countless uses of palm leaves and wood. No wonder the palm was holy. To the early Egyptians, it symbolizes life,⁸ for did it not put out a new leaf month

after month, whenever another grew old and withered? So they immortalized it in their temples, on columns, in murals.

In the Middle East, it was a symbol of fertility: Osiris is decked out in palm leaves and palm branches are in his hand; Ishtar, goddess of Mother-Earth and of love, and her Tyrian namesake, Astarte, divinity of lust and fruitfulness, are similarly portrayed.

For the Jews, too, the date was a token of sanctity: at the Feast of Tabernacles, they would say a blessing over it and decorate the booths with palm leaves: "And ye shall take you on the first day . . . branches of the palm trees . . . and ye shall rejoice before the Lord your God seven days" (Leviticus, 23, 40); ". . . that the Children of Israel shall dwell in booths . . . and that they should publish and proclaim in all their cities and in Jerusalem, saying: Go forth unto the Mount, and fetch . . . palm branches . . . to make booths. . . ." (Nehemiah, 8, 14-15). To this very day, during that Feast, Jews bless the four "species"—citron, palm, myrtle and willow—which the Bible (Leviticus, 23, 40)

⁷ *Phoenix sylvestris* was introduced into Israel recently as an ornamental tree.

⁸ By some, the palm was considered to be the biblical Tree of Life.

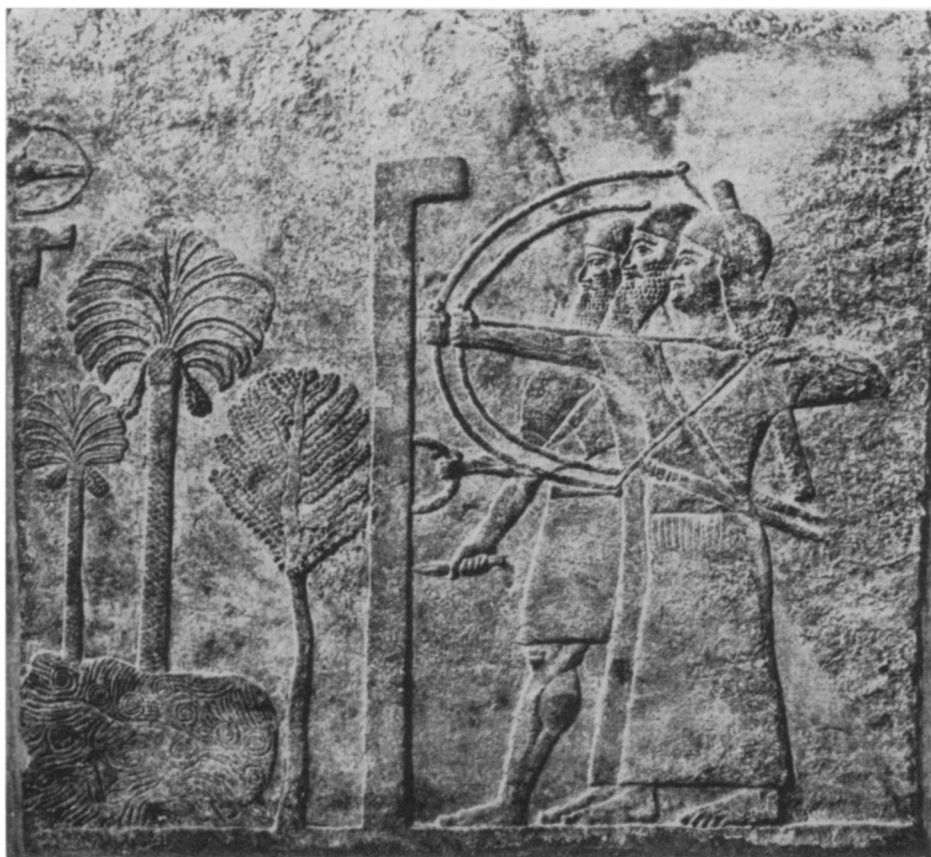


Fig. 2. Palms in Assyria-Nimrod (745-725 B.C.).

describes, and the modern booth, on many a balcony, is decorated with palm leaves, just as its prototype was 30 centuries ago. A Midrash, *Tanhuma Emor*, suggests that the palm was chosen for its likeness to man's spine, the myrtle for its likeness to the human eye, the willow as resembling the mouth and the citron as being heart-shaped.

Palm leaves stood for peace and harmony, and any important or sacred building would be wreathed in them: "And he carved all the walls of the house round about with carved figures of cherubims and palm trees and open flowers" (I Kings, 6, 29); "And the greater house he ceiled with fir trees which he overlaid with fine gold and set thereon palm trees and chains" (II Chronicles, 3, 5).

And then, to mark military success, as we find in I Maccabees, 13, 53: "And they came

with song and palm leaves, with harps and zithers and praised God, That had redeemed them from the hands of a hateful adversary." In II Maccabees, 10, 10: "And they took river willows and palm leaves and sang a song of praise and thanksgiving to God That had given them strength and salvation for the cleansing of the Temple;" and, also, in II Maccabees, 14, 6: "and the Levites brought a gift, one crown of gold and palm leaves and olive branches with which they would serve in holy ritual."

Christians, too, began to adorn their churches with palm branches in the first centuries of the Christian Era, as an emblem of righteousness, love and good harvests; and on feast days they bore palm leaves into their shrines. In the Gospels, the undercurrent of the symbolism is triumph: "... peo-

ple that were come to the feast, when they heard that Jesus was coming to Jerusalem . . . And they took branches of palm trees and went forth to greet Him and they cried, Hosanna, Blessed is the King of Israel that cometh in the name of the Lord" (John, 12, 13); ". . . the people clothed in white robes and palm leaves in their hands" (Revelation, 7, 9).

Moslems sanctified the palm no less. Mohammed declared it a holy tree: devout believers must not uproot that whereon they subsisted, in whose shade they dwelt, whose leaves and wood they turned to such good uses in their daily lives. The Arabs, in whose lands most of the world's date palms once grew and, indeed, still grow, have many tales of its importance to man. In one, these words, which became legendary, are attributed to Mohammed: "Honour the date palm, for it is the brother of your father. It is taken from the earth that remained after Man was created. The date palm resembles Man: it is tall and upright, it is male and female. He that cuts off the head of the date palm, shall die; he that wounds its heart, shall himself wither. If its offshoots are cut away, no others will come forth in their place. So, too, the hands of a man do not grow again if they are cut off. The date palm is covered with fibres like human hair. Is not Man then just like the date palm?" Another tale runs: "The first man cut his hair and clipped his nails and hid them in the soil of Paradise. At once, in that place, there sprouted and grew a date palm, it flourished and bore fruit. The man fell upon his face in the greatness of his wonderment. The angel Gabriel appeared to him and pointed with his finger at the date palm and said to the man—This tree was created from the same matter whence thou wast created, and it will sustain thee."

Besides the ritual and ceremonial services that the palm rendered to all creeds and the diverting folklore that it inspired, its fruit nourished man and beast and made a honey of its own; from its trunk a pleasant juice was extracted, either harmlessly sweet or headily fermented; its leaflets and fronds were woven into sleeping mats, donkey-panniers, planting-pots, baskets and brooms, sandals and fans. Its wood was carpentered into roofs or fences or even river craft; its

eaves and trunks fed ancient, but never ritual, fires; its fibrous sheath was plaited into ropes, pillows and mattresses.

The Biblical Period

Date palms, we saw, were very common in Egypt and on the borders of the Holy Land. Their first ascription to the Holy Land in the ancient Egyptian literature is in Papyrus Anastasi IV, 12, 5, and Anastasi V, written during the reign of Rameses II (1298-1235 B.C.). The story is of an Egyptian officer assigned to Palestine. He describes his life at a lonely frontier post: "During the day, I sit and gaze as if I were hunting birds. My eye strains at the roads that lead to Palestine. At night, I sit beneath trees that bear no fruits for the eating. Where are the dates? They have none, they do not bear any. . . ."

About this time, the Hebrews, led by Moses, departed from Egypt on their way to Canaan. It is now that the first Hebraic mention of dates occurs, for the Jews rediscovered in Canaan a fruit with which they had become familiar in the Nile country. In the Wilderness of Sinai, they had seen the trees at springs where they camped. Of the date it is said: "its roots are in water and its crest in the sun," a poetical allusion to the moisture it requires to develop and the heat for its ripening. The oases of Sinai presented the conditions which equally fostered cultivation in Egypt, Mesopotamia and the Jordan Rift. So, Exodus, 15, 27: "And they came to Elim, where were twelve wells of water, and three-score and ten palm trees";⁹ and Deuteronomy, 34, 3, of Moses' distant sight of the Promised Land from Pisgah: "and the plain of the Valley of Jericho, the city of palm trees, unto Zoar."

There is little doubt that the cultivated palm grew in the Holy Land earlier than that: witness the date-stones discovered in many excavations especially in and around Jericho, in strata of 1600 B.C. and before (John Garstang, *The Story of Jericho*, Plate XIX).

Although there must have been many palm trees in ancient Egypt, yet the Egyptians

⁹ Seventy, as always, is the mystical determinant of plenitude.

were keenly interested in 'Palestine' varieties: most native varieties were soft; the Jordan kind were semi-dry. A wall painting in Karnak (1500 B.C.) illustrates flora brought back by a conquering Pharaoh. The palm is one of them, and we may infer that Thutmosis III took the opportunity to introduce certain cultivated varieties as yet unknown in Egypt.

Place names suggestive of the date were anciently popular¹⁰—" . . . and also the Amorites that dwell in Hazezon-tamar" (Genesis, 14, 7). The meaning seems to be a place where many clusters of dates were cut and gathered from the palm trees. (In II Chronicles, 20, 2, we find Hazezon-tamar identified with Ein-Gedi.) Jericho and adjacent Zoar were dignified as "cities of dates" (Jericho in Deuteronomy, and also in II Chronicles, 28, 15; Zoar in Mishna Yabamot, 16, 7.) Ezekiel (47, 19) mentions a "Tamar" in the Negev, and again, in Judges, 20, 33, we find a "Baal-tamar," a date-palm sanctuary: "The Land of Israel is a Garden of Eden on earth, and Beth She'an (which was, and still is, rich in dates) is the gateway to Paradise." This extract from the Babylonian Talmud shows how important dates were in the region. Tamar was a name much given to women, in a very proper usage of its gracious and upright form (Genesis, 38, 6; II Samuel, 13, 1, of David's fair sister), and it is still a popular name in Israel.

Deuteronomy (8, 8) tells of the goodness of the Holy Land, its grains and fruits and honey; this refers to the honey of dates and not of bees: the Jerusalem Talmud (Bikkurim, Chapter 1, Mishna 3) says "honey that is dates," and Sifri (Chapter Tavo, 60) also states this explicitly.

That the Hebrews regarded the palm unreservedly as a status symbol of the righteous, honourable and beautiful is seen in the Songs of Songs (7, 7, F): "This thy stature is like to a palm tree"; and in Jeremiah (10, 5): "They (the idols) are

upright as a palm, yet they speak not."¹¹ Joel (1, 11-12) lashes out at the slothful farmer: "Be ye ashamed, O ye husbandmen . . . Because the harvest of the field is perished . . . the palm tree also . . . even all the trees of the field are withered." His grouping of the date in this passage with wheat and barley, vine and olive, fig and pomegranate, again affirms the importance of the date to the Israelites.

Greece, Rome and Byzantium in the Holy Land

It was natural for Greek and Roman conquerors to praise the dates that they found in the Holy Land, for no date-palms grew in their own countries, and the Israeli-tish fruit was the finest in the Middle East. Judaea was renowned for its dates, and the distinction was handsomely perpetuated in numismatic designs. Herodotus (484-425 B.C.) has much to say (Book II, Chap. 6, paragraph 2): "In Syria (which, in this context, means the Land of Israel) where most of the dates are, it is claimed that they only grow in three areas, two of which are of salty soil and the fruit is good for storing (Beit She'an, the Jordan Valley, Jericho and the environs of the Dead Sea). But the dates that grow in other parts (Gaza and the coast) do not keep well and they rot, being soft, although they are sweet and can be eaten fresh."

The superiority of storage-quality and the distinction between semi-dry and soft dates in the zones indicated are still true today.

Hippocrates (460-360 B.C.) esteemed the Judean dates highly as medicine; Theophrastus (370-285 B.C.), in his *Research into Plants* (Part II, Chapter 6, paragraphs 2, 5, 7 and 8), writes enthusiastically: "Wherever date-palms grow abundantly, the soil is salt, both in Babylon, they say, where the tree is indigenous, in Libya, in Egypt and in Phoenicia. While in Coele-Syria (Palestine-Jordan Valley) where are most palms, only in three districts, they say, where the soil is salt, are dates produced which can be stored; those that grow in other districts do not keep but rot, though when fresh they are sweet and men use them

¹⁰ Some Bible scholars claim that place-names like Elath and Elim come from "elah", meaning date; but that Hebrew word refers to pistacia, and not to palm or date. It is also mistaken to suggest that Beth-any signifies "the house of the date," for that is clearly "beth-te'ena," "house of the fig"; Bethany is in an area where figs grew, not dates.

¹¹ The Authorized Version seems in error in translating the phrase as "they are like a pillar in a garden of cucumbers and speak not."

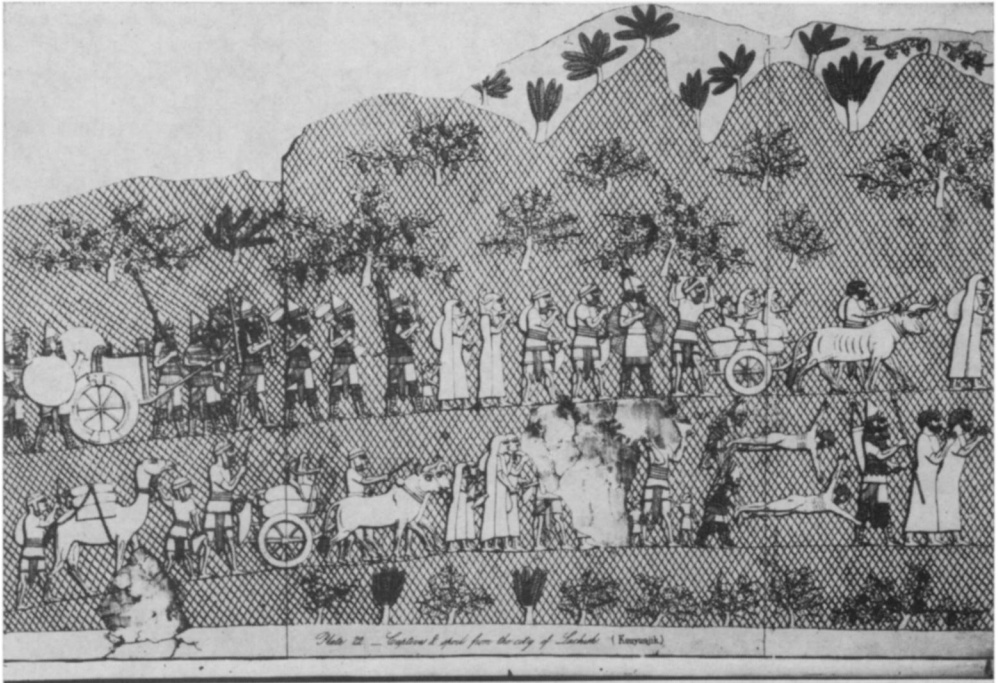


Fig. 3. The siege of Lachich (Israel) from a bas relief at the palace of Nineveh (700 B.C.).



Fig. 4. Impression of a cylinder-seal of Darius, King of Persia (522-486) B.C.). British Museum, London.

for eating at that stage . . . However, some say that the people of Syria (viz. Palestine, the only part of 'Syria' that can produce good dates) use no cultivation, except cutting out wood and watering, also that the date-palm requires spring-water rather than rain-water; and that water is abundant in the (Jordan) Valley in which are the palm-groves. And they add that the Syrians say that this valley extends through Arabia to the Red Sea and that many profess to have visited it and that it is in the lowest part of it that the date-palms grow (that is, around the Dead Sea). . . . Again in Syria and Egypt there are palms which bear when they are four or five years old, at which age they are the height of a man. . . . The only dates that will keep, they say, are those which grow in the valley of Syria, while those that grow in Egypt, Cyprus and elsewhere are used (eaten) when fresh."

This explains why dates from Israel were so prized and were shipped to Greece in preference to the Egyptian and Cypriot fruit that rotted on the way.

The Letter of Aristeas (Third Century B.C.) records an officer Ptolemy Philadelphus (277-270 B.C.), saying: "Much labour is given to agriculture . . . The land (Judaea) is planted with innumerable palms and other fruit trees."

The historian Diodorus (60 B.C.) in Book XIX, Chapter C, paragraph 98, remarks: "The Dead Sea region is extensively planted with date palms wherever there are water-courses."

Plutarch (46-120 A.D.) says that Mark Anthony gave Cleopatra the date district of Jericho as a gift and that Augustus enjoyed a Judaeian date called "nicolvisin." The Hebrew scholar and poet Ben Sira (about 200 B.C.) (Chapter 24, 15) anticipates these Roman panegyrics: "I was exalted as a palm tree on the river (the Jordan)." And, as we should expect, Josephus (37-85 A.D.) gives biblical references and precedents for the importance of the date in Israelitish history, and minute descriptions of Jericho and the Dead Sea: "Here (in Jericho) is the richest region of Judaea in which are grown many date palms of excellent quality" (*Antiquities*, Book XV, Chapter IV, paragraph 2); "Moses bade them build booths for every family, and they celebrate the Feast of Tab-

ernacles for eight days, during which they offer sacrifices and thankofferings to God, carrying in their hand a branch of myrtle and willow and bough of palm leaves with a citron besides" (*ibid.*, III, X, 4); "Moses pitched his camp after his troops had gone down to the Jordan in a great plain facing Jericho, a city blessed and fruitful for the growth of palm-trees and rich in balsam" (*ibid.*, IV, VI, 1). There is an almost parallel passage in IX, 1, 2: "And they pitched their camp at Ein-Gedi, situated on the shore of the Lacus Asphaltitis . . . where the best date-palms grow"; "And Solomon commissioned from Tyre from the skilled Hiram . . . pillars about which there was filigree interwoven with small palms of brass . . . engravings of palm trees within a pattern of two hundred pomegranates" (*ibid.*, VIII, III, 4 and 6).

Josephus cites Jericho and its dates (*Antiquities* XVIII, II, 2, and Wars II, X, 1) in connection with Salome, wife of Herod, and with Julia, wife of Augustus, citations that indicate fame and popularity. The second passage reads: "For Salome bequeathed to Julia . . . Jamnia and Phasaelis and Archelias, . . . all with great palm groves upon them."

Wars I, VI, 6, mentions a despatch that reached Pompey the Great as he campaigned in the neighbourhood of Jericho, "a place among the most prolific in Judaea with earth abundant in dates and balsam"; and in the following Book IV, Chapter VIII, paragraphs 2-3, there is shrewd commentary on the ways and need of cultivation, varieties and date honey: "Those plantations of palm trees that are near its banks are more flourishing and much more fruitful, whereas those that are remote from it are not so flourishing and fruitful. . . . There are in it many sorts of date-trees that are watered by it, different from each other in taste and name; the better kinds, when pressed, yield an excellent honey not much inferior in sweetness to other honey . . . so that he who should pronounce this place, wherein are plenty of palms very rare and of most excellent sorts, to be divine would not be mistaken." In Book III X, 8, occurs the disquisition on the influence of cold and heat in horticulture. It ends with the counsel (speaking of Gennesareth and its nature, its



Fig. 5. Jewish coin (69-70 A.D.) (Photo by A. Bernheim, Jerusalem).

'well mixed' temperatures): "there are palm trees which are nourished well by the warmth of the sun."

Then the logistical Josephus adds, in Book VII, VIII, 4, concerning Masada, that the Jews used to keep emergency rations in their fortresses, and dates were stored for lengthy periods and were most nutritious: remarkable were the great quantities of foodstuffs stockpiled in the strongholds and stored for many a day: "wheat in plenty was laid up, ample for the needs of the beleaguered for a long time, and wine and oil in abundance, as well, all sorts of pulses and dates heaped up together."¹²

Hebrew exegesis written between the Sec-

ond Century B.C. and the Fourth Century A.D. confirms the date's significance in the Holy Land and Babylon, Persia and Egypt. We see that the Jordan Valley and the Dead Sea region, with their unchanging warmth, are still centres of the cultivation, so much so that Tosefta (Shevi'it 7, 11, and Jerusalem Talmud, Shevi'it, 9, 2) pronounces: "Date palms are the trademarks of valleys," whereas the trees in other places merely furnished leaves for this or that "industrial product." Hill-top palms were barren, and the sneer "You are a mountain palm," as the Midrash, Sifra, Tazria,' tells us, became a by-word for the man of little and profitless wisdom. The Mishna (Bikkurim 1, 3 and 10) makes it clear that mountain dates might not be taken as first-fruits to the Temple, but only valley dates, which were acceptable for offering and prayer; Tosefta (Bikkurim, 1, 5) is specific:

¹² Confirming the account of Josephus, date-stones were found in Masada and the caves of Ein-Gedi in that area (Yadin Expedition, 1963).



Fig. 6. Jewish coin (70-132 A.D.) (Photo by A. Bernheim, Jerusalem).

"The only dates brought as first-fruits are those from Jericho"; "No one prays except over (the superior variety called) kothbot." In the layers of first-fruits within the traditional basket borne to the Temple, dates were uppermost (Tosefta, Bikkurim, 2, 8).

Dates also were subject to peah (Mishna, Peah, 1, 5), but the Jerusalem Talmud (Mishna, Peah, Chapter 4, Halacha 1) gives a ruling of Rabbi Yehuda: "Soft dates, which do not keep, are exempt from peah, for the first of them tarried not for the last (in other words, it is not feasible to harvest all at once, for they do not ripen simultaneously), but whole bunches must pay it."

Propagation. Propagation was either by sowing stones or planting shoots. It appears that in the Holy Land, at any rate in the

Jordan Valley, most groves were planted from shoots, for it was soon realized that only thus could the perpetuation of desirable varieties be ensured. The trees were cultivated for a given length of time, and, on aging, were uprooted, since they now ceased to put out new suckers and their yields fell away. "The palm does not renew its offshoots, and therefore the grower digs down and uproots it" (Babylonian Talmud, Taanit, 25a and b).

Varieties. Some varieties ripen later than others. Tosefta, Shevi'it, 7, 15, puts it well: "They eat dates until the last one is finished in Zoar." The Babylonian Talmud, Baba Kama, 59a, in a few words: "The palm of Aramaea and . . . of Persia," registers the source of certain foreign kinds, and goes on to say that the Babylonian (Aramaean)



Fig. 7. Date seeds found in Ein-Gadi (1st-2nd Centuries A.D.),

dates were poor, used as fodder; but the Persian, were good and were not fed to cattle (Babylonian Talmud, Shabbat, 143a). The Hebrews claimed that the stones of Babylonian varieties were soft, those of the Persian hard (Babylonian Talmud, Shabbat 143a); there is no such distinction today. The Babylonian Talmud, Shabbat 29a, notes also that the Persian dates had free stones, while the stones of the Babylonian clung to the flesh. In the same place, 110b, we are told that the Persian dates had the further merit of medicinal properties.

In Bamidbar Raba, 3, 1, the Midrash enlarges on soft dates, the "niclosin" (a semi-dry variety), and the inferior kind (that drops off before it ripens) and the dry variety "solin," with a characteristic addendum: "Thus, too, it is with Israel, some were learned, some unversed in the law, and boorish, and just as there are soft dates that cannot be stored and others that bear fruit that can be kept safely, so was it with Israel in the wilderness, some entered the Holy Land, others did not."

The wild dates of the Holy Land must not be forgotten. There is in Mishna, Sukkah, 3, 1, mention of "zini (palms) of the Mount

of Iron."

The variety "nishani" (Babylonian Talmud, Erubin 28b) is said to be a male date which produces embryonic fruit but not mature dates; Rashi comments that male palms yield only this unfertilized fruit that develops no further and never grows into real dates. Rashi also refers to the "taali" (Babylonian Talmud, Shabbat, 110a, and Baba Bathra, 22b) variety which grew both in Babylon and in Israel. Among the better varieties is 'ahini," in name resembling the important modern variety "hayani," extensively grown in Egypt and Sinai and described as a red date in the Babylonian Talmud, Sukkah, 35b and in Erubin 28b. The best varieties of Israel were the "tav," which Mishna and Talmud declare may not, on account of "superfine quality," be sold to idolaters; and the "hazzab" (or "hassad"), also too good for heathen buyers. So was the "niclivas."

The Mishna, Aboda Zara, 1, 5 and the Babylonia Talmud, Aboda Zara, 13b, mention "niclivas," "nicolas," "nicola" and "nicolvasin" indifferently, but always with appreciation: the Babylonian Talmud, Aboda Zara, 14a, is specific: "Rabbi Dumi an-

swered them—When you go thither (to the Land of Israel) and you say ‘nicolas,’ they will not understand you, but if you say ‘curaiti’¹³ they will and will show you that same variety.” “Curaiti” is referred to also in the Jerusalem Talmud, Aboda Zara, Chapter 1, Halacha 39, and in Berachot, Chapter 6, Halacha 5, that tells a story of Rabbi Hanina Bar-Sisi, who had gifts of “nicolvasin” from the President of the Sanhedrin, and would put them aside until he had partaken of the meal and said a blessing over them, first and last. Tosefta, Berachot, 4, 12, mentions “kothbot,” which prompted Rabbi Akiva to make the apt benediction over a dish of them brought to table. Some “kothbot,” we learn, were qualified as “nimrot,” seemingly a place-name (Nimrin), but it may suggest “tigerish” dates of good quality, with black and white markings. The Midrash, Bereshit Raba at Chapter 5, alludes to an exchange of gifts of “doriot” (this may be the current variety “derec”) for “kothbot.” The Babylonian Talmud, Baba Bathra, 124a, records the variety “shalfufa,” of which the Akkadian name is “suluppu.”

Pollination. The Hebrews learned the value and art of date pollination from Egyptian and Babylonian experts. They understood that there were male and female palms and that there could be no dates without fertilization. The ancient Egyptians thought that it was the male that fruited, the female providing only the pollen.¹⁴ The Babylonians discovered the truth: that fruiting depended on fertilizing the female with pollen from the male. This the Hebrews, therefore, knew, and were skilled in the practice. “The men of Jericho,” says the Mishna (Pessahim, 4, 8), “pollinate the palms all day even on the Passover Eve”; and so also Tosefta, Pessahim, 2 (3), 19. A spikelet of the male inflorescence was taken and tied above a spathe of female flowers. The wind would carry the pollen from one to the other, as is carefully and intelligently described in the Babylonian Talmud, Shabbat, 47a. But there

were also Hebrew date-growers who regarded pollination as an “Amorite mode,” a form of magic, believing that the female palm was sick and that the device was its way of imploring pity for its barrenness, so that passers-by might pray in compassion, when it would then bear fruit.

The Babylonian Talmud, again, Pessahim 56a, goes into detail: “How is this pollination done? . . . the grower brings a fresh myrtle branch and juice of the green fruits of laurel with barley flour mixed with date-pollen that has not been more than forty days in store. All the ingredients are mixed and boiled, and injected into the heart of the (female) palm-spathe. Every (female) palm that is no further away than four cubits is fertilized. In trees that are further away, the blossom dries up at once (for lack of pollination).” It adds that Rabbi Aha, son of Raba, says: “a soft inflorescence branch of the male palm-spathe is inserted into a fissure of the female palm.”

Theophrastus, Enquiry into Plants, II, VIII, 4, and Herodotus, Persian Wars, I, 193, agree: “The process is thus performed: when the pollen in the male flower is ripe, they at once cut off the spathe on which the inflorescence is, just as it is, and shake the bloom and dust it over the female (flowers), and, if this is done to it, it retains the fruit and does not shed it” (Theophrastus). Herodotus says: “The natives tie the fruit (flower) of the male palms, as they are called by the Greeks, to the branches of the date-bearing palms (the females), to let the gall-fly enter the dates and ripen them and thus prevent the fruit from dropping. The male palms, like the wild fig-trees, have usually gall-fly in their fruit.”

Herodotus, who incidentally mentions that the Babylonians used dates as a source of bread, wine and honey, is writing from his recollections of fig-caprification. Today, it is considered that pollination, in the date palm, is done by the wind alone.

Long after, Linnaeus (1707-1778 A.D.) summarizes the problem: “They take a sprig or two of male flower and introduce it into the sheath of the female or else they take a whole cluster of the male and sprinkle its meal or farina over several clusters of the female.”

Date-growers in the Holy Land knew that

¹³ The Elder Pliny uses both terms but regards them as the names of two different varieties.

¹⁴ An outline of the History of Agriculture in Egypt, by Dr. Mamoun Abd-el-Salam (1938), p. 36.



Fig. 8. A Roman coin "Judea Capta" (a Jewess mourning under a palm) (70 A.D.). (Photo by A. Bernheim, Jerusalem).

pollen of certain male-palms was incompatible and of others compatible; the latter were marked, and it was only their pollen that was used in pollination. "There was a palm tree in Hamathan which bore no fruit. A skilled date-grower went by and saw it. This tree, he said, is yearning for pollen of Jericho. When they pollinated it with such flowers it fruited" (Midrash, Bamidbar Raba, 31). In other passages (Bamidbar Raba, 3, 1, etc.), we find pleasing elaborations of the tale, how no local pollen helped, how a passing expert explained that the tree longed in its heart for Jericho (pollen), and how the valley pollen instantaneously cured it.

Fruiting of the date. There could be no fitter introduction to this section than the Midrash, Vayikra Raba, 3, 1: "The palm tree bears fruit, even so do the righteous bear fruit."

The Talmud (Babylonian, Bechorot, 8a) fixes the interval between blossoming and ripening at twelve months. Both Mishna and Talmud confirm that the fruit was gathered all in one picking, the harvesters climbing up the trees with ropes and cutting off whole bunches; only rarely, at the start of the season, were single dates gathered. Carobs and olives, too, were harvested all at once. The Mishna (Maasaroth, 1, 2) explains that it was at the beginning of their ripening that the dates were picked: the ripening was noticeable when they bulged and when cracks and corrugations appeared on them.

How the date palm was used. "Nothing goes to waste in it," Midrash, Bereshit Raba, 41, 1, pronounces; "dates for the eating, fronds (lulavim) for prayer and praise, leaves for thatching booths, bast for the



Fig. 9. A Jewish coin (132-135 A.D.).

making of ropes and sieves, and its trunk for ceilings."

Tosefta, Shabbat, 17 (18), 7, sketches in a few words the popular entertainment of guests: "A man just takes what he finds in his house and serves it . . . walnuts, dates." Date-porridge was a frequent dish but not on the Sabbath; we are warned (Babylonian Talmud, Shabbat, 37b) that it would go bad overnight. "Havitzta" (date-cakes) (ibid., Baba Bathra, 99b) and "terimah," ground and spiced dates (Tosefta, Maasaroth, 82, 2) were also produced. As for date-honey, its copiousness and quality were the early sign-manual of the Holy Land and are often mentioned in the Mishna and Tosefta. Domestic consumption was as important as export.

If one took a vow of abstinence from honey, one might still eat date-honey; or if one abstained from dates themselves, their

honey was not forbidden (Mishna, Nedarim, 6, 9).

The difference between the more expensive bee-honey and date-honey is well explained in Jerusalem Talmud, Peah, Chapter 7, Halacha 4: "Rabbi Hanania sold bee-honey but also kept date-honey. Once some muleteers came, and unwittingly he sold date-honey. A few days later the same muleteers passed by and he said to them: Let me not exploit you unduly, you should know that the honey I gave you was from dates."

An intoxicating liquor can be made from dates. Tosefta, Maasar Sheni, 2, 2, advises: "Do not immerse dates in water to produce date-beer"; but the Babylonian Talmud, Baba Bathra, 96b, contents itself with putting date-beer on a par with barley-beer and wine in the right to the proper blessing: "All takes place in accordance with God's word." The sap that flowed from the severed

top of the palm quenched thirst (Mishna, Shabbat, 14, 3), and the stones of the fruit were fed to cattle and were burned as fuel.

The fruit and its honey were recommended as purgatives, and, like old wine, the fruit had a reputation for bestowing virility; the Babylonian Talmud, Shabbat, 110b, says that a sick man should be sweated by draughts of a solution of Persian dates in water.¹⁵ The Babylonian Talmud ascribes a row of virtues to the date: heating, satisfying, purging, strengthening the body. But we are not to eat dates at all hours: They are good in the morning and evening, bad in the afternoon, but at midday there is nothing like them for dispelling moodiness, stomach-ache and haemorrhoids."

Pests. The only reference in the Mishna (Terumot, 7, 11) is to "wormy" dates.

The value of the date. Mishna and Talmud mark this by blessing the lucky bargainer who pays dried figs for dates (Babylonian Talmud, Erubin, 29b) and by exemplifying their nourishing quality: "Rabbi Kahana went to the market and saw starving people, feeding on date waste. He was told that there was famine throughout the world, so he prayed and the rains came."

But the value of a palm tree depended, in the end, on its yielding a minimum harvest: "a tree that bears at least a qab (slightly more than two litres) must not be cut down" (Babylonian Talmud, Baba Bathra, 26a).

Parables and similes in ancient Hebrew literature liken Israel to the date palm, most notably Psalm 92, 12: "The righteous shall flourish like the palm tree." The Midrash (Bereshit Raba, 41, 1) explains that, like the character of a righteous man, the palm has neither hollows nor ridges. Not less graphic are the following passages: "In days of old the Sages of Israel saw in the date palm and its fruits a symbol of nobility and loveliness. When Aaron and Moses stood before Pharaoh, it is said that their mien was of ministering angels: in stature like the cedars of Lebanon, their eyes like the roundness of the star Venus, and their beards like date-clusters upon a palm tree" (Yalkut, Exodus

181); "The Almighty banished Israel to Babylon but to feed on dates there and occupy themselves with learning" (Babylonian Talmud, Pessahim, 87b); "Just as this palm tree is lovely to behold and all its fruits are sweet and good, so is the son of David beautiful and all his works are sweet and good before the Lord" (Pirkei Rabbi Eliezer, 19); "As the hearts of palm and cedar point to Heaven, even so does the heart of the righteous point towards the Holy One, blessed be He" (Midrash, Bereshit Raba, 41, 1).

Roman authors speak much of date cultivation in the Holy Land. The geographer Strabo (63-20 B.C. writes): "Here is a 'phoenikon,' an expanse of plantations of date palms and other fruit trees. The principal growth in Jericho is the date, and the groves are over a hundred stadia (17 kilometres) long, watered throughout from springs. The fruit is better than the Babylonian, and only here do you find the special variety 'caryotae' (cf. 'creiti' and also 'cureiti' supra), which, in summer, contains a large quantity of strong 'wine.' The income from the grove is very high indeed ('Geography,' Books XV and XVI) . . . and the Jews have forbidden the too extensive planting (of the better kind) so as to keep up the price" (Book X, Chapter 7). The Elder Pliny states: "In other respects Egypt is of all the countries in the world the best adapted for the production of unguents, although Campania with its abundance of roses runs it close. *But Judaea is even more famous for its palm trees* (XIII, VI, 26); Next to these the most famous are the caryotae, which supply a great deal of food but also of juice, and from which the principal wines of the East are made: these strongly affect the head and to this the date owes its name (pig-headed). . . . But not only are these trees abundant and bear largely in Judaea but also the most famous are found there, and not in the whole of that country but specially in Jericho, although those growing in the valleys of Archelais and Phasaelis and Livias in the same country are also highly spoken of. Their outstanding property is the unctuous juice which they exude and an extremely sweet sort of wine-flavour like that of honey. The

¹⁵ Herodotus (III, 24) records an Egyptian use of date-wine for drinking and for embalming as well.

'nicolai'¹⁶ date belonging to this class is not so juicy but exceptionally large in size, four put end to end making a length of eighteen inches. . . . Of the many drier dates, the finger date 'dactylis' forms a class of its own—it is a very long, slender date, sometimes of a curved shape. The variety of this class which we offer to the honour of the gods is called 'chydaios' (common) by the Jews . . . (XIII, IX, 44-46) . . . on the west side of the Dead Sea is the solitary tribe of the Essenes, which is remarkable beyond all the other tribes in the whole world as it has no women . . . has no money and has only palm-trees for company . . . (V, XV, 73) . . . next in honour to the vine and the olive comes the palm. Fresh dates are intoxicating, though causing headaches less when dried, and they are not, so as can be seen, beneficial to the stomach. They relieve a cough and are flesh-forming food. The juice of boiled dates used to be given . . . to restore strength and to assuage thirst. . . . The dates called 'caryotae' are applied with quince, wax and saffron to the stomach, bladder, belly and intestines. They heal bruises. The kernels of dates if burnt and the ashes washed take the place of spodium and are an ingredient of eyesalves. . . . (XXIII, LI).

When one reflects that all this was written when Rome dominated all date-growing lands and every Senator knew precisely how valuable the date was, any doubts of Judaea's pre-eminence in this regard must vanish. Conversely, the symbolic meanings and economic importance of the date at home, apart from its merit as a paying commodity of export, find expression on the coinage of Simeon and successive Hasmonean kings, not to mention the minting of the Roman Emperors themselves. Horatius Flavius (First Century A.D.) in Epistles II, 2, versifies the main source of Herod's State revenue—the date of the Jordan Valley, "Herodis palmatis pinguibus" (from the rich palm groves of Herod). Cornelius Tacitus (55-120) writes of the sparse rainfall of Israel, its fertile soil, its agricultural pro-

duce not unlike that of Rome and how, except for the balsam and dates which the Empire lacked, its vegetation, too, is similar. All this in his *History* V, 6, with a lyrical outburst, "the soaring palm trees and the grace of their superb uprightness." The fondness which the Emperor Augustus had for "nicolvasin" dates from Judaea is respectfully noted by Greek authors, primarily Athenaeus of Naucratis, and Jewish; this variety was made into loaves and cakes of that name.

The better date groves of Judaea were owned mostly by the ruling class and the rich. So universally renowned were these that Virgil, *Georgics* III, could say: "Primus Idumaeas referam tibi, Mantua, palmas"—Let me be the first to present to thee, my birthplace Mantua, the palms of Idumaea (Edom, a poetic licence for all of Palestine). The minor poet Strattius commiserates with a conquered land, its palm groves in alien grasp, still planting Idumean woods that shall not profit itself (*Sylvae*, V, 2).

The physician Claudius Galen (130-200), who did professional research into the flora of the Holy Land, praises its dates, of surpassing value in his prescriptions for diet and as a drug (Book IV C 19 of his monumental treatise *De Simplic. Medic. Facult.*).

Pausanias, a Greek traveller of the Second Century, contrasts the date of Judea, which he visited, with the Ionian: to him the Ionian are inedible, the fruit from Israel is more delicate and sweet and retains its savour and beauty. Eusebius of Caesarea (260-340) makes mention of the local palm, but, as explained, it was purely ornamental. Pompeius Trogus writes in his *Historiae Philippicae* of "a fruitful, smiling wood in the vale of Jericho, planted with date palms."

Gaius Julius Solinus, in the Third Century, presumably a freedman of the imperial household, claims (*Collectanea Rerum Memorabilium*, XXXV, 9) that the people of Judaea live on dates and that, though Engedi is no more, its glory still abides in splendid glades and magnificent groves, unspoilt by time or war.

An anonymous *Totius Orbis Descriptio*, of the Fourth Century, picks out Jericho as the place of the palm tree called "nicolvas," and

¹⁶ Allegedly after the philosopher Nicolaus of Damascus, who, visiting Rome with Herod the Great, presented the finest dates to Augustus (Athenaeus, XIV, 22).

of even a smaller one, and a third kind used for mat-making.

St. Jerome (345-420) does not fail us, either, for Zoar and its date are recorded by him; and Theodorus (circa 530) writes: "In Lubis (near Jericho) palms grow whose fruit is big: the name is nicolvas." Antoninus Placentinus Martyr (circa 570), in his *Journeys*, adds Tiberias to the customary citing of Palestine on dates, and discusses the date-wine of Jericho as a specific against ague.

Procopius, a Greek historian of merit, who was, like Eusebius, born in Caesarea (Sixth Century) has a word about Elath (Eilas) and the palms that thrive on the coast there and in the neighbourhood; the Arab Abu-Harib sent a parcel of dates from there to the Emperor Justinian and was appointed superintendent of the groves as a reward.

The Arab Period (636-1099)

According to Moslem tradition, God created the date palm from dust left over after Adam was made, and Arabs consequently call it the "Tree of Life"; even nowadays, there is a superstition that the variety "hayani," a name plainly derived from the Semitic word for "life," is especially life-giving, and childless Arab women still swallow "hayanis" to cure their barrenness.

Adamnanus, Abbot of Iona, telling of the travels of the Bishop of Arculf (623-704) in *De Locis Sanctis*, refers to vast groves of palms between Jericho in the Jordan Valley and Elisha's Spring—sixty stadia long, twenty stadia wide, an unbroken stretch of delightful garden, "its divers kinds of palms embellish and enrich it." Ibn Hudadbeh (about 864), an Arab traveller, speaks of the dates of Zoar: "A type called 'al-anquila' (which is a typically Arabic inversion of 'nicola'), tastier and lovelier than any I saw in Iraq or anywhere else. They are saffron-hued and no part need be thrown away; four of them weigh a rotl." Ibn Hauql (about 978) corroborates this.

The Arabs were great admirers of the date, for, in the desert zones, dates sustained them. The Caliphs were given Ten Commandments of Mohammed whenever they went forth to do battle, to govern their conduct in conquered territory. One was.

"Neither shall ye cut down palm trees nor burn them." Istahari (about 951) mentions the great date groves in the Jordan Valley, and Al-Maqdisi (about 985) saw groves near Haifa, Caesarea and Ramla, and at Beth-She'an, "dates . . . and date-honey"; he was particularly excited at what he found in the district of Jerusalem (including Jericho), "fruits not ordinarily grown together: citrons, almonds, dates, walnuts, figs and dates, citrons and bananas." Jericho, it seems, was prolific in dates, citrons and bananas. He mentions palms in Elath, and coming to the palms of Bethlehem, says: "Here Jesus was born and here he found the lonely palm. For the most part dates do not ripen in this region, but in Bethlehem it symbolizes a miracle." This was repeated by Yakut (about 1225), by the unknown author of a book on Al Marsid (1300), by Ibn-Batuta (about 1355) and by Salim-ad-Dahiri (about 1467). In 1047, the Persian Nasiri Husru records palms at Haifa and Caesarea and, in 1063, Antaki, describing the Ghor valley between Jericho, Beth-She'an and Tiberias, speaks of villages, streams and date palms.

The Crusaders (1098-1291)

This period damaged the Holy Land in many ways, as Arab rule had done; plantations suffered most. Yet insecurity, taxation and wantonness still left many palm trees standing. Fulcher of Chartres, in his book on the First Crusade *Gesta Francorum Iherusalem Peregrinantium* (1101-1127), says: "Segor, pleasantly situated and very rich in the fruits of the date-palm, very sweet to taste and which we lived on, for we could get nothing else."

In 1102, Saewulf saw dates in Jericho; in 1106, Bishop Daniel, the Russian, saw dense groves in Beth-She'an and was impressed by the richness and fertility of Jericho with its numerous palms (*Vie et Pèlerinage*). Albertus Aquensis (also of the Twelfth Century) wrote a *History of Jerusalem* in Latin about the First Crusade, but he finds space in it for the dates of Jericho. Al-Idrisi, in 1154, describes craft on the Dead Sea conveying cargo, different varieties of dates included, from Zoar to Jericho and elsewhere, and William of Tyre (1130-1190) writes of the great groves of Zoar, using the Crusader name for them—palmer or "paumier." When, in 1190, the soldiers of Richard the

Lion-Hearted were stricken with malaria in the swamps between Acre and Haifa, it was no consolation to them that they shivered amidst countless palms, in an area known as "Palmaraceae." References to these groves throughout the Twelfth and Thirteenth Centuries are enough to refute the theory that Napoleon or Ibrahim Pasha planted them.

Jacques de Vitry, Bishop of Acre (1210-1240), quotes (in Book I, Chapter 85) Josephus and earlier writers with approval on the lovely, profitable dates of Zoar, but says: "The trees are now very rare in the Land of Israel, being found, in number, in Zoar and Jericho only; and the fruit is exported, as it always was." Yakut (1225), we may add, found only two palms in a Beth-She'an once famed for its dates, and even those were of the "hailj" variety, fruiting every second year. Jacopo da Verona (about 1230) in his *Liber Peregrinationis* tells of a spring that watered a great garden beside the monastery of St. Jerome; he tasted its dates and they were very good. Near Halyn (Elam) he counted more than 70 fruiting palm trees and a large plantation stretching for five and more miles, with many springs on the hillsides: infinitely more trees than the Jews beheld in their staging at the oasis some three thousand years before. At the monastery of St. Catherine on Sinai, by his report, there were enough trees to supply dates for the monks over a twelvemonth. Burchard of Mt. Zion (about 1280) notes the groves of Ginossar and Ein-Gedi.

From the Mamelukes to the Twentieth Century

It is now that the agrarian economy of Palestine really began to collapse. Most of the coastal palms disappeared; only few survived in the Jordan Valley and, as time went on, they thinned out even more. El-Kazawini, in 1308, can still mention dates, bananas and sugar cane in Jericho. Abu el-Fida, in 1321, found a handful of palms in Gaza and in the Ghor, El-Qalqasandi, in 1418, could, unhappily, say: "There are now no more fresh, or even dried, dates to be got (in Palestine)." Bertrandion de la Brocquière (1432 and 1433), however, observed gardens full of date palms in Tiberias

and at Acre, where he was given a whole bunch of dates. Meshullam Menachem of Volterra, in 1481, found the Jews of Jerusalem eating honey of carobs, dates and bees, yet Obadiah of Bertinoro (see *Letters of Palestine* by Avraham Yaari) writes in 1488: "I found no date-honey here (in Palestine) nor dates. At Jericho, city of palms, a reliable person told me that only three date palms are left and they bear no fruit." Eight years earlier, Felix Fabri (1480 and 1483) saw an enormous tree, but a solitary one, at Ramla, weighed down with clusters. Majir-ad-Din al Hambali (1496 and 1499) apparently saw more than a single tree in Ramla and many others in Gaza.

In the travel book of Moses Bassola of Ancona (1521), there is an account of a large movement of Jews from Spain and Portugal to Palestine. The Turks already ruled there, and an improvement in farming was perceptible, for some of the newcomers settled in villages and rainforced the earlier communities of Jewish husbandmen, especially in Upper and Lower Galilee; Bassola refers, in particular, to the many palm trees of Tiberias.

Pierre Bélon, touring Palestine in 1553, reported perspicaciously "The dates in Gaza ripen late. These dates rot readily. It is already three months since the dates of Egypt and Arabia matured, yet in Gaza they are still green." He is led to challenge the extravagant eulogy of Palestinian dates by Hebrews, Greeks, Romans, Arabs and Crusaders, dates once so highly esteemed, so healthy and appetizing, so sought after by Roman and Crusader kings alike. Was it a revolution of climate or taste that brought about their present mediocrity, or were they always as poor as he now experienced? "True, distinguished men have lauded the date of Jericho, but from what I have seen (at Gaza), there never were very excellent dates here, for I do not believe that the climate has changed since then" (Observations C II 86 321). But as respects Jericho, his inference was unsound: the climate of Gaza is suitable only for soft dates, and the conditions which made the dates of Jericho and the Dead Sea area so justly famous in antiquity are absent.

Bishop Bonifacius of Dalmatia was a visitor to the Ginossar Valley in the Sixteenth

Century and came across two palm trees in the ruins of Capernaum; these Quaresmus mentions a century later (*Palestine* by S. Munk, 1845). De Monconys notes date palms in Tiberias in 1647. Doubdan (1651) mourns the lost grandeur of Ein-Gedi: "there is no vestige of palms and all is wilderness." Frère Eugène Roger, 1663, sees signs of recovery: "The Land grows all the trees we know in France, and carobs, pistachio, bananas, sycamore and dates also"—dates in Tiberias outstandingly, but in Jericho, Gath and Ekron, too.

Thomas Shaw, 1738, writes learnedly of date-fertilization in his *Travels and Observations relating to the Levant*: "It is well known that there are male and female and that the fruit will be dry and insipid without a previous communication with the male. In March-April, a string or two of the male flowers are inserted into the sheath of the female or they sprinkle the meal over several clusters of females. One male is sufficient for 400-500 females. The date is at its best at thirty and continues for seventy years and then starts to decline, bearing 15-20 clusters each year, weighing 15-20 lbs. . . . I really saw two or three (palms, in Jerusalem), their fruit rarely ever comes to maturity and is of no other service than (like the palm of Deborah) to shade the sanctuaries or supply the solemn processions with branches."

Abbé Mariti, in 1767, is detailed about varieties, pollinization and propagation in his *Travels through Cyprus, Syria and Palestine*: "Pliny, the naturalist, has reckoned forty-nine species of palm trees. Some that I saw were extremely tall, others were less tall and had thicker trunks. Some bear a fruit without a stone; others a soft fruit of oblong shape; some a large and exceedingly hard fruit. Mathioli, on the authority of Theophrastus, assures us that the male and female palm trees are equally fruitful, but this is not believed in Syria (Palestine), where the barren trees are called males, so necessary for the fructification of the rest. If these are taken away, the fecundity of a whole plantation may be destroyed. The palm tree is propagated by planting those offshoots that spring from the root or by sowing date-stones or a part of the germ of the top called the brain. It requires a warm climate and a moist, sandy, soil, impregnated

with nitre. When it is newly planted, the roots are surrounded with salt and ashes, to give it vigour and forward its growth; but great care must be taken to remove from it all fat or putrid substances as they are very prejudicial to the palm. There is no tree known which is so durable and hardy as the palm. Braving all the severity of the weather, it preserves its original vigour for several centuries. It has become the symbol of everything great and wonderful among men. It signifies victory, triumph, durability, innocence, justice and particularly the fertility of Judaea."

M. C. F. Volney, in 1783, writes of numerous palms from Gaza to Rafa, that make an Egyptian scene; and of good dates grown at Jaffa.

In the Eighteenth Century, nearly all the groves of the Jordan Valley vanished, and Gaza and Khan Yunis were now the main areas of cultivation; in 1816, we learn from Irby and Mangles, and, in 1833, from E. Robinson, that there were palms in Tiberias, a solitary tree in Jericho, not a single one in Zoar or Ein-Gedi; to J. S. Buckingham, in between (1821), Jericho was absolutely bare. These many divergences of observation at Jericho reflect merely the extent and interest of individual visits; the basic surmise is that, if palms still grew there in the 1820's and 1830's, their number was small. The same would doubtless apply to Ein-Gedi, where, in 1838, Robinson and Smith, struck by the contrast with palms of bygone years, say that no trace of palms could be seen. In 1847 John Wilson confirms our thesis: "A stunted and languishing date tree was the only memorial of the city of palms," in words almost identical with those used by John Gadsby the previous year. H. B. Tristram, in 1866, may be cited at length: "There is the impression that the date-palm is now scarce in Palestine. This cannot be said of the maritime region or any of the more sheltered cultivated districts. It does not exist in hilly country where the climate must always have forbidden its growth, but we have seen it in Sidon, Acre, Haifa. Even about Nazareth there were many trees laden with dates. In Jenin they are the feature of the scenery. (Speaking of Jericho) Above all the last palm has gone and its graceful feathery crown waves no more over the plain

which once gave to Jericho the name of the City of Palm Trees. . . . (Concerning the Dead Sea) Trunks of trees lay tossed—a great proportion were palms, many with their roots entire. These must have been tossed for many years before they (were) washed along its shore. The timber is saturated with brine, it scarcely burns. They are wrecks of generations, perhaps of centuries past accumulating here from days when the city of palms extended into groves to the edge of the river. . . . (Concerning Ein-Gedi, but he is writing later now) Not a palm in the area which was once a forest of palms. . . . (Concerning the shores of the Dead Sea) Not a palm remains in these lonely recesses though the shores are fringed with the gaunt trunks of this tree washed down the Jordan and from the other side . . . on breaking this soft incrustation (thick layers of carbonate of lime) we found great masses of palm trees quite perfect and even whole trees petrified where they stood, growing as it were to the rock, entire from the root of stem to the last point of frond. . . . No sign of leaves or trunk are found today in Ein-Gedi or along the Dead Sea. How they disappeared is hard to understand.

A. P. Stanley, the great explorer and journalist, reports finding, in 1871, a clump of five isolated date palms at the point where the Jordan flows into Lake Kinneret, standing there on the shore's brink as though to welcome the entering waters.

Victor Guérin, in 1884, testifies sadly again to the dearth of palms in Jericho, whereas Lawrence Oliphant, in 1886, saw many in Acre: relies, as he comments, of Crusader times, and three hundred (he is precise) in bearing in the Yarmuk Valley. In his own words: (Acre) "The plain is as unhealthy now as it was then, and the date-groves, which are its most striking feature, must have existed then for they are mentioned in the records of the year 1230 A.D. . . . (The Yarmuk Valley) . . . dense thicket of tropical underwood above which a grove of at least 300 date trees."

Lortet, in the same year as Guérin, writes that on the way from Acre to Haifa, "at the foot of the hill, a forest of palms encompasses the city. These trees are on the northern fringe of the date-ripening zone . . . and the

fruit is bad and not fit for ordinary consumption."¹⁷ Lortet, naturally, discusses Jericho; he finds it hard to understand why the people of Jericho do not revive a cultivation in which they could prosper exceedingly, but eventually understands that the burdensome taxation on fruit-trees was the cause. He can but lament that arbitrary governors should allow a fruitful land to revert to desert.

The Modern Period

During the British Mandate, there were, in all Palestine, in 1930, only 250 dunams (60 acres) bearing fruit, largely in and around Gaza, and of varieties suitable only for eating fresh—"hayani" and "bintaisha," for the most part. The groves in Haifa, Acre and Jericho, whither the palm had modestly returned, were mainly seedlings, and their fruit was worthless.

Gradually, the area became greater: in 1935, it was over 2,000 dunams, a decade afterwards, 3,000, still concentrated in Gaza, but with beginnings in the Jordan and Beisan Valleys. Of this, one-twelfth was owned by Jews: as far back as 1920, Jewish farmers had shown interest in the revival of date-growing, importing finer varieties from Egypt, Iraq, Persia and the United States. Difficulty in propagating the palms slowed up the process of extension. As propagation depends on the small number of shoots of palm trees (seeds are not used), it was essential to raise these shoots carefully each year for planting; if there were no large groves, this supply was limited. Hence, the recourse to foreign importations, and, in this regard, the Settlement Department of the Jewish Agency, the Mandatory Administration and Ben-Zion Israeli, pioneer and expert in the kibbutz of Kinneret, did excellent work. From Egypt came the varieties "zaghlul," "samani," "amhat;" from Iraq and Persia, "halawy," "khadrawy," "gantar," "barhee," "zahidi," "maktoom," "dere" and "sair." From the United States, also, "halawy," "khadrawy," and "deqlenoor," a widespread variety of North African origin.

Import went on. At the instance of

¹⁷ This is still true, and we do not nowadays recommend date plantations in that area.



Fig. 10. Hayani dates (1960), palm near Sea of Galilee.

veteran growers in the Jordan Valley, the Israel Ministry of Agriculture and the Palestine Jewish Colonization Association introduced several thousand shoots from the United States to develop plantation in the Valley, in Beisan and especially in the Arava (Negev); by 1955-1956, 60,000 shoots were brought from the Persian Gulf and set out in a great nursery in the Beisan Valley to be planted wherever sub-surface water was available at no great depth or where irrigation could be provided.

Date-cultivation is of paramount importance in certain parts of Israel where conditions do not favour the usual field-crops but where the palm can easily make itself at home. For the date-palm will subsist on brackish water or saline sub-surface water of more than 3,000 milligrams of chlorine

per litre; it sends its roots down into reservoirs of that sort and, once its roots get to them, can do without further irrigation. Moreover, it adapts well to the hottest climates. No wonder that date-cultivation is so significant for areas where, otherwise, perplexing problems of settlement confront the farmer.

The date is not hard to look after: but, being bi-sexual (dioecious), it needs artificial pollinization. This is done today precisely as it was done long ago.

The local varieties may be divided into three classes: 1) soft dates that do not keep well, are best for eating fresh, do not call for many units of heat, and can yield satisfactorily on the southern coast; 2) semi-dry dates (mostly Iraqi-Persian varieties, much in demand) that store well after good drying,



Fig. 11. A young plantation of dates in the Jordan Valley (1962).

need more heat to ripen than the soft kind, and grow in the Beisan and Jordan Valleys; 3) dry dates that require a very high degree of heat and so thrive in the Arava. The proportions in Israel (1963) are: soft dates, 21%; semi-dry, 52%; dry, 27%. The Israel varieties are: "khadrawy," 37%; "hayani," 21%; "zahidi," 16%; "halawy," 10%; "daqlel-noor," 8%; "barhee," 3%; "sair" and others 5%.

In 1963, the total area of date-groves was about 3,000 dunams, 900 in bearing, the remainder still too young to fruit.

Expansion will depend on the availability of more shoots from the many young trees

that have meanwhile come to maturity; by 1968, the area is expected to be 4,000 dunams.

Yields are about a ton to the dunam: in 1962 the aggregate yield was 650 tons, and it is not unreasonable to predict a figure of 2,600-2,800 for 1970, fresh and dried; the "fruit-basket" of Israel should contain about 1.5 kg. per capita, and the all-in requirement for a population of three million will be 4,500 tons. An unremitting but necessarily gradual enlargement should regain its ancient glory for the palm tree, and the rich and flattered fruit will once more occupy its becoming place in the economy of Israel.



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The History of the Pomegranate in the Holy Land¹

ASAPH GOOR²

Introduction

The pomegranate (*Punica granatum* L.), which was also known as *Malum punicum* ("apple of Carthage"), was cultivated in Israel more than 5,000 years ago.

Its Hebrew name is 'rimon'. Much the same syllables are used in most Semitic or near-Semitic languages: in Arabic 'ruman', in Aramaic 'rumanu', in Coptic 'haraman', in Old Egyptian 'inhmn' or 'nhman. In early Spanish, it is 'romana', in Portuguese 'roma' or 'roman'. Hesychius, the Greek historian, uses 'rimbai' for large pomegranates, and the word suggests 'rimon'. There is also a theory that the name 'rimon' may be associated with Hadadrimmon, mentioned in Zechariah 12, 11. This Semitic divinity, semantically linked with the pomegranate, was apparently a sun-god and a god of fertility; it was the multitude of grains within the fruit that led the ancients to regard it as a symbol of the prolific. In European languages, the basic name is 'pomum granatum', meaning "seeded (grained) apple," whence, by characteristic shortening, came the word 'pomegranate' itself.

The wild or semi-wild pomegranate still exists in the north of Syria, in Gilead, (*Flora of Syria, Palestine and Sinai* by G.E. Post) and on Mount Carmel (*The Natural History of the Bible* by H.B. Tristram). According to Vavilov, the pomegranate originated in the Near East; de Candolle ascribed it to Iran and vicinity, whence it spread to the shores of the Mediterranean. The view currently accepted places the origin in southwestern Asia. Rinds were found by the archaeologist Macalister in Gezer in layers of the Bronze Age (3000-2000 BC.); fragments of the pericarp in caves of the Judean Desert in the wadis near Ein-Gedi on the western shore of the Dead Sea; and, recently, entire pomegranates in excavations at Ein-Gedi, going back to the 2nd Century AD.

Pre-Biblical Times

The pomegranate was not native to Egypt. It was introduced from Syria and Israel before the 18th Dynasty, probably during the hegemony of the Hyksos (about 1600 BC.) (V. Loret *La Flore pharaonique* (1892), pp. 76-77). Below is a picture of the dagger found by Loret at Saqqara, with a hunting scene upon it and the inscription 'nhman'.



Fig. 1. Dagger handle showing a hunting scene and bearing the inscription, "He who follows this master *khiman*" (in Egyptian pomegranate is "*khiman*").

² Ministry of Agriculture, Jerusalem, Israel.
Rendered from the Hebrew by Max Nurock.
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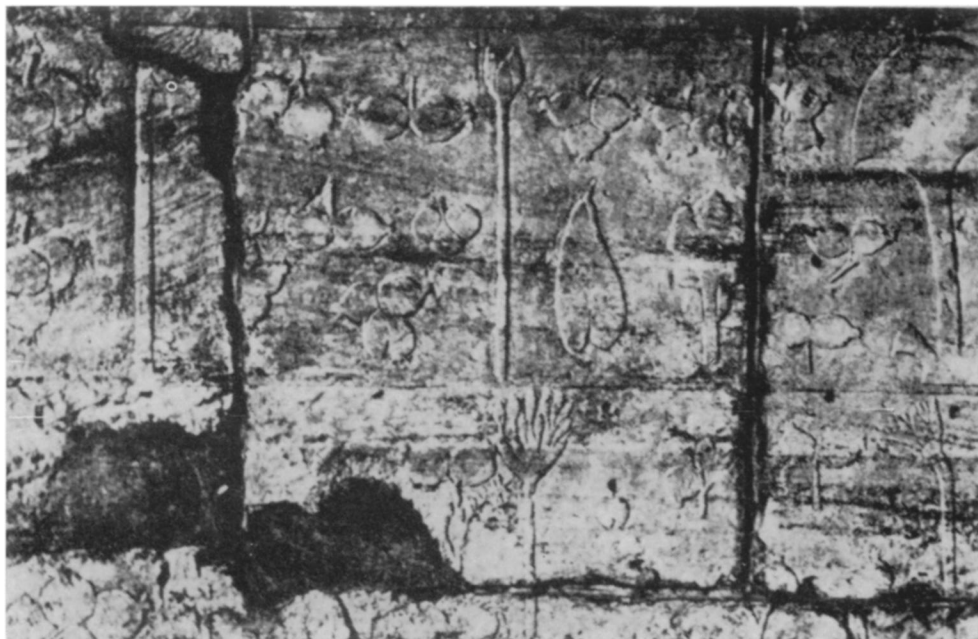


Fig. 2. Pomegranate seen in the "Syrian Garden" of Thutmosis III (from Wreszinski Atlas).

Better varieties were introduced to Egypt from the Holy Land during the reign of Thutmosis III (about 1485 BC.), as seen on the walls of Karnak in the famous plates of the 'Syrian Garden' of that Pharaoh, where pomegranates figure among the plants imported from Canaan. (See illustration from *Atlas zur ägyptischen Kulturgeschichte*, Vol. II, by W. Wreszinski.) Davies, in 'El-Amarna III', plate IV (1408-1370 BC.), shows a pomegranate on the table of Queen Tiye as she banquets with her sons. In the corridor of columns at Karnak, again in a portrayal of the ceremony of the feast of Opet (period of Tutankhamun, ca. 1350 BC.), are to be seen baskets decorated with pomegranates; these Wreszinski publishes as part of a feast from the Temple of Mut at Luxor with baskets similarly adorned.

According to the Harris Papyrus (1150 BC.), the Egyptians imported raisins and pomegranates, carobs and apples from the Holy Land (*Ancient Records of Egypt*, James H. Breasted). And their imports were much the same millennia later. In the Papyrus Anastasi IV (1298-1235 BC.), in a description of preparations for the reception

of the Pharaoh, we find a reference to the pomegranate. (Adolf Erman, *Die Literatur der Aegypter*, p. 266. The Papyrus Anastasi III (1298-1235 BC.), praising the Pharaonic residence in the Delta (Pi-Rameses), says: 'Pomegranates, apples and olives, figs from the trees in the garden . . .'. The town was in the neighbourhood of Pelusium, and the presumption is that the fruits were imported from nearby Canaan.

The ancient Egyptians made a juice from the pomegranate which they called 'shedou', as well as a wine; the rind was considered to be a specific against intestinal worms. The flowers were crushed to make a red dye; and the peel yielded a yellow for dyeing leather still in use in modern times (F. Hartman, *L'Agriculture dans l'ancienne Egypte*).

Zenon, master of the ships of Apollonius (about 200 BC.), writes of bringing back from Israel and Syria, among other things, wine, olive-oil, honey, nuts, figs and pomegranates, an indication of how long the traffic in imported pomegranates lasted in Egypt, even though the fruit had been grown there for over 1,000 years.

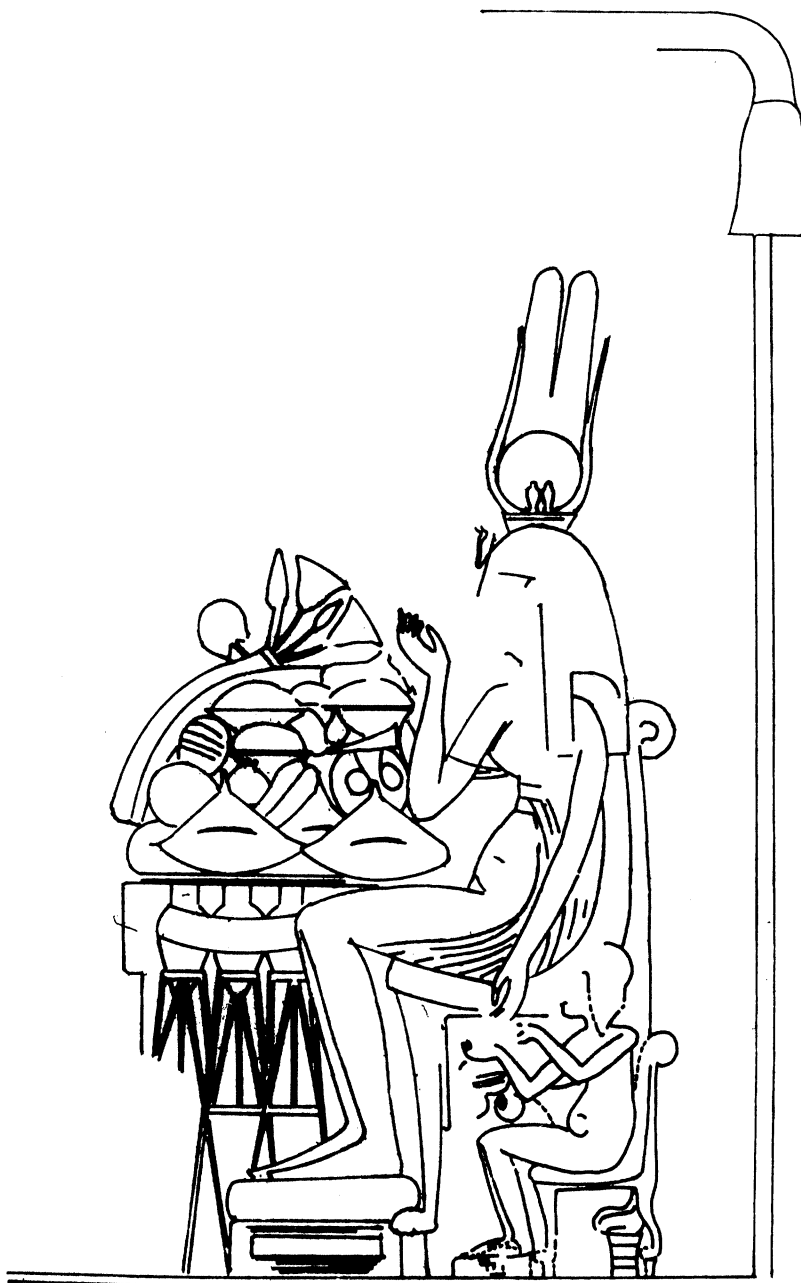


Fig. 3. A pomegranate on the table of Queen Tiy at a meal she is having with her son (Relief of El-Amarna) (1408-1370 B.C.).

Biblical Period (1200-445 BC.)

Just as the lotus flower was the symbol of ancient Egypt so the pomegranate represented the Hebrews and Canaanites. But unlike the olive and its oil, the grape and its wine, and the fig, all of them staples of life, the essential foodstuffs and drink of the Hebrews and the very basis of their survival, the pomegranate was not an indispensable article of food. If it figured in that category, the chosen company of the olive, grape and fig, it was because of the beauty of the shrub, flower and fruit, and because it symbolized sanctity, fertility and abundance. The people valued it not only for the green splendour of the tree, but also for the rainbow pink and red of the flower, for the purpling, crimson, outward loveliness of the ripe fruit and for the ruby symmetry of the seeds. It ripened, opportunely, at the end of summer, and its juice quenched their thirst on hot, dry days. The bell-like flowers and the delicious, deeply coloured fruit were transferred emblematically to the adornment of holy appurtenances, monuments and buildings, the fringes of priestly dress, oil lamps, coronets; and, in the course of time they began to figure upon the silver ornaments of the Scrolls of the Law. In fact, the pomegranate's tufted crest served as a model for the royal crown.

The robes of kings and the regalia of Jewish priests were hemmed with an embroidery of pomegranates and with golden bells; the Temple of Solomon had pomegranate designs. The fruit is on ancient Jewish coins—all pointing to its special 'image' and symbolism for the Hebrews, its national and ritualistic significance. It is conceivable that, in these applications and usages, there was the influence of practices from Israel's neighbours and of ancient legends which saw in the pomegranate the very Tree of Life. There, indeed, lies the origin of the early Christian symbolic use of the pomegranate to typify the hope of life everlasting.

Therapeutically—and the Hebrews, in common with all early peoples, were quick to detect and apply medicinal attributes to all of Nature's gifts—both the flesh and peel were popular 'nostrums' against respiratory ailments, stomach troubles³ and, as in Egypt,

intestinal worms; the blossoms were steeped in wine, and the infusion was employed to allay dyspepsia.

Let the Bible now further speak for the fruit. Exodus, 39, 24-26: 'And they made upon the hems of the robe pomegranates of blue, and purple, and scarlet, and twined linen. And they made bells of pure gold, and put the bells between the pomegranates upon the hem of the robe, round about between the pomegranates, A bell and a pomegranate, a bell and a pomegranate, round about the hem of the robe to minister in'.⁴ II Chronicles, 4, 13: 'And four hundred pomegranates on the two wreaths; two rows of pomegranates on each wreath, to cover the two pommels of the chapiters which were upon the pillars'; I Kings, 7, 18: 'And he made the pillars, and two rows round about upon the one network, to cover the chapiters that were upon the top, with pomegranates'; Jeremiah, 52, 22-23, describing the House of the Lord, and the brasses of it which were taken away to Babylon: 'And a chapter of brass was upon it; and the height of one chapter was five cubits, with network and pomegranates upon the chapiters round about, all of brass. The second pillar also and the pomengrantes were like unto these. And there were ninety and six pomegranates on a side; and all the pomegranates upon the network were a hundred round about.'

When the Children of Israel wandered in the wilderness, and hunger and thirst afflict-

³ St. Jerome (345-420 AD.) confirms the custom: 'The plantations of pomegranates that one saw in different places . . . the fruit was used to make a kind of wine elixir for fevers of the stomach.' Rabbi Shabtai Donolo (913-985 AD.), a famous Jewish physician of Italy writes in his book on pharmacy: 'Pomegranate juice is a remedy for laryngitis; the patient should drink pomegranate wine before meals and make himself a gargle of it.' He recommends using pomegranate rinds also against earache: 'And pomegranate rinds, dried and ground, should be mixed well with water and warmed and poured into the painful ear.'

⁴ Bells were in themselves a symbol of the unfertilized pomegranate flower (male). There is, further, a clear significance in those adornments: namely, the conjunction of the unfertilized flowers—bells—and the fertilized flower, giving birth to the 'female'—pomegranate fruit.



Fig. 4. Stand decorated with pomegranates (found at Ras-Shamra-Ugarib) (late Bronze Age).

ed them, they complained to Moses, saying: 'It is no place of seed, or of figs, or of vines, or of pomegranates' (Numbers, 20, 5). And the spies, when they returned from the Holy Land, '... brought of the pomegranates, and of the figs' (Numbers, 13, 23).

Monarchs, no less than their subjects, enjoyed the shade of the tree: 'And Saul tarried . . . under a pomegranate tree' (I Samuel, 14, 2); the lovers of kings tended it: 'I went down into the garden of nuts to see the fruits of the valley, and to see whether the vine flourished, and the pomegranates budded' (Song of Solomon, 6, 11).

To be compared to a segment of pomegranate was for a young girl the hallmark of beauty: 'As a piece of pomegranate are thy temples (cheeks)'⁵ (Song of Solomon, 6, 7); and, in that same treasury of Hebrew lore, another virtue of the fruit is lauded: '... I would cause thee to drink of spiced wine of the juice of my pomegranate' (Song of Solomon, 8, 2).

The pomegranate was a principal element in the Hebrew farmer's plantings and

⁵ In the Babylonian Talmud, Aboda Zara, 30b, we find an expression 'the pomegranate of the face', meaning cheeks.

deserved to be grouped with the olive, vine and fig in passages of outstanding import: 'The vine is dried up, and the fig tree languisheth; the pomegranate tree, the palm tree also, and the apple tree, even all the trees of the field, are withered: because joy is withered away from the sons of men' (Joel, 1, 12); 'Is the seed yet in the barn? yea, as yet the vine, and the fig tree, and the pomegranate, and the olive tree, hath not brought forth: from this day will I bless you' (Haggai, 2, 19); 'And he saw that the land was good, extensive and very fertile, and everything grew thereon—wine, figs, pomegranates . . .' (Book of Jubilees, 13, 6); 'And the tithes of the grain, wine, olive-oil, pomegranates and figs and all other fruits of the trees gave to the Levites who serve in Jerusalem' (Tobias, 1, 7).

Once in the Holy Land, the Hebrews multiplied the pomegranate. Many names of localities are derived from the name of this fruit: Rimmon-parez (Numbers 33, 19), Ain-Rimmon (Spring of the Pomegranate) (Joshua, 15, 32 and 19, 7; Nehemiah, 11, 29; and Zechariah, 14, 10), Gath-Rimmon (Pomegranate Press) (Joshua, 21, 24), Sela Rimmon (Rock of Pomegranate) (Judges, 20, 45), and Beit Rimmon (House of Pomegranate (II Kings, 5, 18). In Mishnaic and Talmudic times, we find Geva Rimmon (Hill of Pomegranate) (Tosefta Suta, 11, 14), Biq'at Rimmon (Pomegranate Valley) (Jerusalem Talmud, Hagiga, Chapter 3), and, variantly, Biq'at Beit Rimmon (Valley of the House of the Pomegranate) (Midrash Bereshit Raba, 64, 10). Men, likewise, took family or clan names from the pomegranate.

The Second Temple Era and the Period of Rome and Byzantium (up to 636 A.D.)

Together with the olive, grape and fig, no less, the first-fruits of the pomegranates were considered worthy offerings to the Temple: ' . . . a man goes down to his plantation and sees . . . a pomegranate that is ripe. He ties a strip of papyrus around . . . and says: 'These are the first-fruits.' (Mishna, Bikkurim, 3, 1). 'They used to bring first-fruits . . . olives . . . dates . . . and on top of them were pomegranates . . .' (Tosefta, Bikkurim, 2, 8). The fruit grown in the valleys was the most prized for the Temple: They bring the pomegranates of the

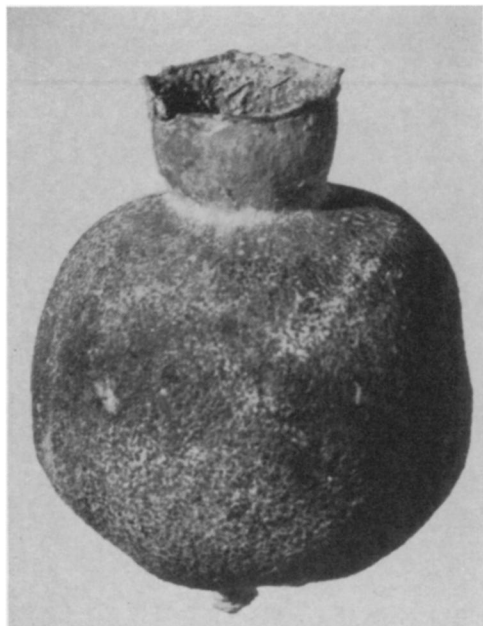


Fig. 5. Pomegranate found in a cave in Nahal Seelim (near the Dead Sea) (132-135 A.D.).

valleys and they bless them' (Tosefta, Bikkurim, 1, 5).

Understandably the pomegranate adorned booths on the Feast of Tabernacles: 'The householder hangs up walnuts in it and pomegranates, cakes and bunches of grapes and ribbons or lace' (Tosefta, Sukka, 1, 7); 'The householder . . . hangs up walnuts, almonds, peaches and pomegranates' (Babylonian Talmud, Beitza, 30b); 'The sukka (booth) is beautiful with walnuts, peaches, almonds, pomegranates . . .' (Babylonian Talmud, Sukka, 45a and 22a). A blessing was said over an etrog (citron) in the booths, but, if one were not available, a quince or a pomegranate would *not* serve (Babylonian Talmud, Sukka 31a).

A number of varieties of pomegranate were cultivated, those of Badan being among the most famous: 'And there are soft-shelled walnuts and Badan pomegranates' (Mishna, Orla, 3, 7); 'The pomegranate of which they said it was neither large nor small nor in-between, and, therefore, they were spoken of as Badan pomegranates' (Mishna, Kelaim, 17, 5); 'Everyone whose way it is to enumerate what is holy and the sages say:

you sanctify these six things alone: soft-shelled walnuts, *Badan* pomegranates . . .' (Babylonian Talmud, Beitza, 3b). There was a distinction between the sweet and the sour varieties for *Tosefta*, *Terumot*, 5, 10, explains: 'Rabbai Yehuda says that sweet pomegranates are forbidden [for a particular ritual use].'

These were names for every part of the flower and fruit. Both the anatomy and the physiology are discussed in the Mishna and Talmud. In the Mishna, *Okzim*, 2, 3, we find the names of crown, stamens, and style. 'The style of the pomegranate is like a nipple emerging at the top of the fruit. Around the style are threadlike filaments, the stamens, and all around the stamens is a kind of cup whose top is crested and which is known as the comb, because it has teeth like a comb. The style, if it is destroyed down to its root, will reveal the grains and will then not bear.' The Babylonian Talmud, *Berahot*, 36b, says: 'If you remove the stamens, the pomegranate will dry up.'

The pomegranate belonged to the class of trees the fruits of which were liable to peah a levy) and tithes: Amongst the trees, sumach (*Rhus coriaria* L.) and carob and walnuts and almonds and vines and pomegranates and olives and figs, all must pay peah' (Mishna, *Peah* 1, 5). (See also Jerusalem Talmud, *Peah*, Chapter 1, *Halacha* 4.) 'From when are fruits liable to tithe . . . the pomegranates when they soften and become juicy' (Mishna, *Maasrot*, Chapter 1, 2).

Then as now, the pomegranate was propagated by cuttings, thus: 'They do not plant a cutting of the pomegranate . . .' (*Tosefta*, *Kelaim*, 1, 10).

Utilization of fruit, rind and branches. The fruit was eaten either fresh, as juice or dried, in the latter form being known as *pered* or *praga*. 'The pomegranate fruit was very much liked by children: they said of Huni, the magician, that all that he asked for from the Almighty the Lord did for him as a son whom his father spoilt, and he would say: Father, give me walnuts, almonds, peaches and pomegranates. And He would give them to him' (Babylonian Talmud, *Taanit*, 23a). The end of the fast on the Day of Atonement was a traditional occasion for the dainty:

'If the Day of Atonement fell on a week-day, they used to crack walnuts and break open pomegranates from *minha* (evening prayer) onwards' (Babylonian Talmud, *Shabbat*, 115a).

Remembering the Song of Songs, the Jews still made a pomegranate juice: 'Mulberries from which he extracted juice and pomegranates from which he pressed wine (juice) and offered them to his guests were permissible' (Babylonian Talmud, *Shabbat*, 143b). Pomegranate juice is mentioned also in the Babylonian Talmud, *Hullin*, 14b: 'And the Almighty said to them: From the wine of apples do you wish to drink or from the wine (juice) of pomegranates or from the wine of grapes: and the righteous used to say: The privilege is yours to choose whatever you wish' (Midrash *Eliahu*). 'The *pered* and raisins and carobs were heaped up' (Mishna, *Maasrot*, 81, 46). 'They separate out the pomegranate seeds to make *pered* from them' (*Sosefta*, *Shevi'it*, 6, 29). '... if (a person) brings pomegranates to the market (and fails to sell them), he is likely to make *praga* from them' (*Tosefta*, *Terumot*, 3, 16).

The rind and the stamen rudiments were used for colouring fabrics (Mishna, *Shabbat*, 9, 5) and in tanning. 'Pomegranate rind and its blossom, walnut shells and their kernels are subject to the *shevi'it*' (Mishna, *Shevi'it*, 7, 3). They were also subject to *orla* (Babylonian Talmud, *Berahot*, 36b). In other words, having a commercial value, the rind came under the laws of *shemita* (fallow year) and *orla* (initial period of non-use). Ink, too, or *nara-water*, as it was called (Babylonian Talmud, *Gittin*, 19b), was manufactured from the rind. The dry husks came into their own in children's games or, frugally, as the bowls of scales: 'The pomegranate fruit, the oak acorns and walnuts—which children have hollowed out to measure sand therewith or which they fashion scales out of, are impure' (Mishna, *Kelaim*, 17, 16; *Tosefta*, *Kelaim*, *Baba Metzia*, 6, 7; Babylonian Talmud, *Hullin*, 12b); 'A game with dice . . . and with the rind of pomegranates' (*Tosefta*, *Sanhedrin*, 5, 2). The branches had a culinary task to perform: 'How do they roast the paschal offering? They bring a skewer of a pomegranate branch and they spear the paschal offering



Fig. 6. Frieze from the synagogue at Capernaum (2nd-3rd Centuries A.D.).

with it right through from mouth to belly' (Mishna, Pesahim, 7, 1).

The fruit constituted a concept of size, as the Mishna (Kelaim) describes: 'All the utensils of households are compared to pomegranates' (larger, smaller than, or as big as pomegranates) (17, 1).

From the Mishna (Peah 8, 4), we also learn that pomegranates were fairly expensive: 'Ten walnuts, five peaches, two pomegranates, and one citron . . .' (all cost the same). The comparison, if in slightly different context, was substantially the same nearly twenty centuries afterwards.

We find further in the Babylonian Talmud, Erubin, 29a: 'A man's tithe must be no less than a quantity of ten walnuts, five peaches, two pomegranates or one etrog (citron).'

Pests and Diseases. Among the commonest diseases of the pomegranate was 'splitting': 'The nuts crack open and the pomegranates split' (Mishna, Orela, 3, 5); 'The pomegranates gaped open (split) (Tosefta, Terumot, 5, 10). Nevertheless, some varieties were immune: 'Like the kind of pomegranates whose mouths are never open' (Babylonian Talmud, Zevachim, 88b). Rashi states: 'It is the habit of pomegranates that, when they remain on the tree after their ripening is complete, they split open of themselves.'

The Talmud alludes to pests: '. . . the pomegranate butterfly (*Virachola livia* (Klug)) . . . (is) a menace' (Babylonian Talmud, Shabbat, 90a). It is the same butterfly that we find mentioned in the Babylonian Talmud, Sanhedrin, 108b: 'One day

he was cutting a pomegranate when a worm fell out of it.'

The pomegranate in metaphor and imagery of plenty. The literature is abundant in these ascriptions: 'Even thy empty-headed ones are full of good deeds as a pomegranate is of seeds' (Babylonian Talmud), '. . . full of good deeds as a pomegranate' (Babylonian Talmud, Hagiga, 27a); 'In Israel he that is empty is full of answers like the pomegranate' (Midrash, Song of Songs Raba, Chapter 6); 'The transgressors of Israel are full of good deeds as a pomegranate of seeds' (Babylonian Talmud, Erubin, 19a); the pomegranates flowered—these are the children who sit and work at the Torah and sit in row after row like the seeds of pomegranates' (Midrash, Song of Songs Raba, 6, 17); 'Rabbi Meir found a pomegranate, he ate the (sweet) fruit within and threw away the bitter rinds' (Babylonian Talmud, Hagiga, 16b; he absorbed the essential and discarded the trivial).

When Jews wanted to express beauty, the pomegranate was their measure: 'He who wishes to see the beauty of Rabbi Yohanan shall bring a shining silver cup and fill it with the seeds of a red pomegranate and crown it entirely with a wreath of red roses on its brim and place it between sunlight and shade: that brilliance is like the beauty of Rabbi Yohanan' (Babylonian Talmud, Baba Metzia, 84a); 'Every pomegranate seed must be blessed' (Jerusalem Talmud, Berahot, 6, 6); 'The fruit of the pomegranate is loveliness but its wood is not' (Jerusalem Talmud, Sukka, Chapter 3, Halacha 5).



Fig. 7. A panel from a synagogue at Hamath (Tiberias) (5th Century A.D.).

In the Babylonian Talmud, Berahot, 56a we find interpretations of the pomegranate in dreams: 'Both Abiya and Raba dreamt about a ripening pomegranate. Abiya solved the dream—Thy transactions shall flourish like a pomegranate (meaning they shall be as many as the seeds of one). While Raba solved it—They shall hate your transactions like a pomegranate (meaning, like the bitter taste of the rind.)' Further on, in Berahot, 57a: 'If one sees pomegranates in a dream: if it is a small one it means that the fruits of one's transaction shall flourish as a pomegranate, but if it be a big one, then one's affairs will grow great as a pomegranate.' (The difference is this: the first means that the transaction will give profit and success, the second that business will be plentiful but unprofitable.) 'If one sees but a slice of pomegranate, if one be a scholar, then one may look to the Torah, and, if one be an ignoramus, let one look to good deeds.' And other parallelisms: 'Your goods will be high-priced like a pomegranate, your goods will be stale like a dry pomegranate' (Babylonian Talmud, Berahot, 56a); 'When Solomon speaks of 'the juice of my pomegranate' it means that the legends have a taste of

pomegranate' (Midrash, Song of Songs Raba, Chapter 8); 'Thus were Israel in Egypt as a heap of stones . . . once they went out they became like a grove of pomegranates. All through the ages when mankind looked upon Israel they were praised' (Midrash, Shemot Raba, 20, 3).

Even if the entry is not strictly chronological, let Herodotus (484-425 BC.) in his Persian Wars be quoted here, speaking of the pomegranate: 'Darius was about to eat one of the fruits and had already opened it, when he was asked by an onlooker what he would like to possess in as great a plenty as were the seeds within. And he answered—Had I as many men like X (naming one of his favourite generals) as there are seeds in this, it would please me better than the Land of Greece.' The historian makes incidental mention of golden pomegranates adorning the spears of warriors in the Persian phalanx.

The Crusader Period (1099-1291)

Albertus Aquensis, in his *Historia Hierosolymitana*, speaking of the days of the Crusaders, writes: 'They used to import

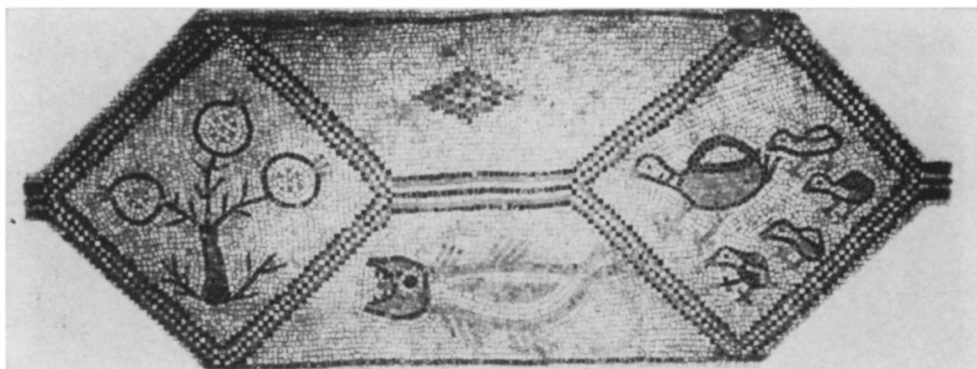


Fig. 8. Mosaic pavement, synagogue of Beth-Alpha (6th Century A.D.).

pomegranates and wine and other things from Cyprus'; and Crusaders allude to pomegranates in the neighbourhood of Jaffa.

The Arab writer Idrissi (1154), treating of the region of Jebel: 'It is a region very rich in olives, almonds, figs, vines and pomegranates.' Geoffrey de Vinsauf (1191):

'The army remained outside the walls of Jaffa and refreshed themselves with abundance of fruits, figs, grapes, pomegranates, citrons, produced by the country round about.' Yaqut (1225) extols the region of Shechem (Nablus) as an area of pomegranates.



Fig. 9. Basket with pomegranates. Mosaic floor of the ancient synagogue at Maon (Nimrim) (6th Century A.D.) (Photo courtesy of The Dept. of Antiquities, Jerusalem).

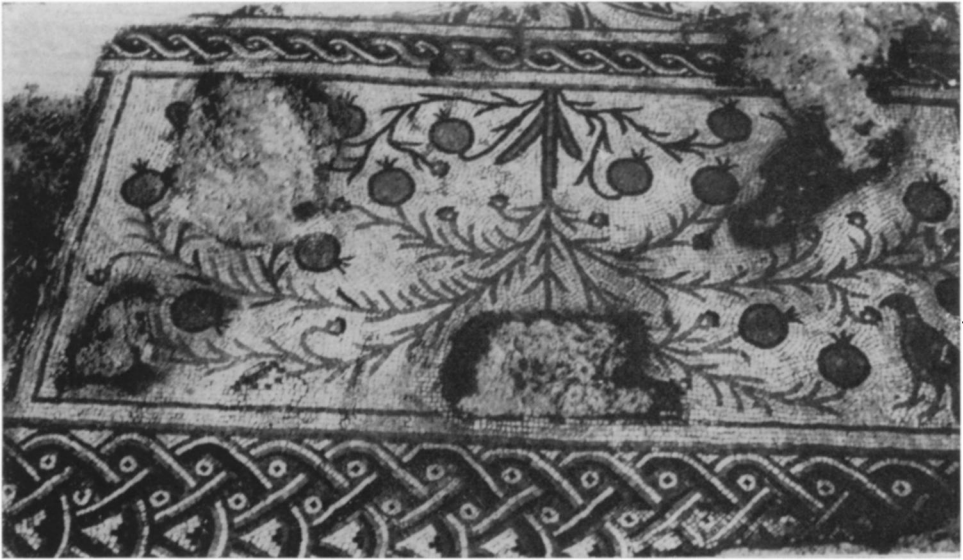


Fig. 10. Mosaic floor of Byzantine Church at Suhmata (Photo courtesy of the Dept. of Antiquities, Jerusalem).

Obadiah, the convert, who lived in the 13th Century, says: 'And what do you eat and drink? And Solomon answered: Pomegranates, figs, almonds, walnuts, sycamore figs, dates and apples which come from the various fruit trees.'

Jacobo di Verona (1230), in his *'Liber Peregrinationis'* states: 'Between the Dead Sea and Jericho there is a holy monastery of St. Jerome (Hieronymus) (known as Sancti Jheronimi) and nearby there is a spring which waters the garden wherein grow citrons, lemons, pomegranates, figs and dates . . . and I ate very good fruits.'

The Mameluke Period (1250-1517)

Through generations, the Arabs greatly prized the pomegranate and believed that, whosoever ate it, had his heart filled with faith.⁶ Their habit is to eat all its seeds, in the belief that in every pomegranate there is one from the Garden of Eden, and it is a sacred duty to swallow it; the early Middle Eastern tradition that the 'Tree of Life' in Paradise was the pomegranate will be recalled.

⁶ The Prophet Muhammad said 'Eat the pomegranate, for it purges the system of envy and hatred.'

The Arab author Al Kalkashandi (1418) enumerates among the fruits of Syria: 'figs, grapes, pomegranates, cherries, plums, apricots, peaches, mulberries and so on.' Felix Fabri (1480 and 1483) says of Bittir near Jerusalem:

'The valley below the village is planted with many fruit trees: vines, walnuts, oranges, pomegranates, figs, olives, mulberries, almonds and apples. This orchard was planted by Solomon.' Of Ramla: 'Here we found the sweetest grapes, pomegranates, apples, oranges, lemons, figs both large and small, almonds and dates.' Of the Mount of Olives: 'For there are upon it gardens of olives, fig trees, pomegranates and other fruits.' Of Hebron: 'Gardens of vines, oranges, pomegranates and other good fruit trees.' Of the Monastery on Mount Sinai: 'Besides the date palms they cultivate three thousand olive trees and many fig and pomegranate trees.'

Meshullam of Volterra (1481), in the chronicles of his travels (as edited by Abraham Yaari) writes of Jerusalem: 'And its fruits are very choice and beautiful . . . and the pomegranate and all kinds of fruit in the perfection of excellence and beauty.'

Ibn Ach-Chihna, in the middle of the 15th Century, describes varieties of pomegranates

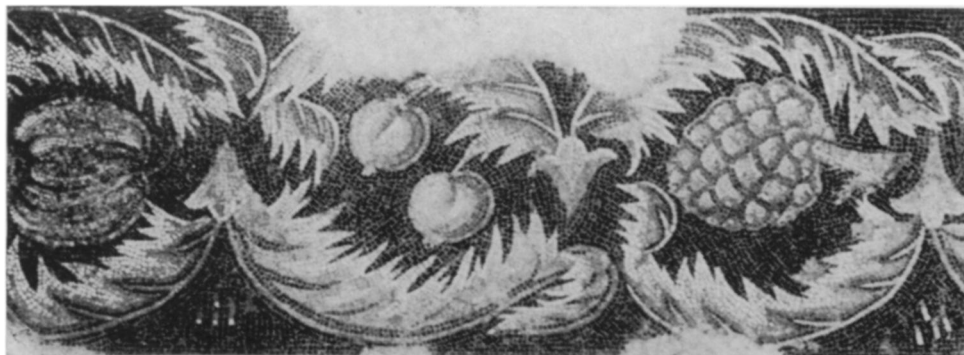


Fig. 11. Pomegranate on nave mosaic, Church of the Nativity, Bethlehem.

known to him in Syria, which included Palestine: 1. Attabaki (large) with ruby grains; 2. Imlisi (now known as Malissi); 3. Harimi; 4. Dayr Kouchi (seedless); 5. Al-Laffan (sweet-sour), now known as Loufani; 6. Ras-el-Baghl (Mule's Head)—a common variety now locally grown; 7. Nah-el-Jamal (Camel's Tooth)—large seeds but extremely few.

The Turkish Period (1517 A.D. onwards)

Pierre Bélon (1553), of Jerusalem, Ramla and Gaza: 'In Ramla on the western slopes they grow the vine, the olive, the fig and the pomegranate. . . . In the region of Jerusalem they grow figs, olives, pomegranates, plums and apricots. . . . And in Gaza we find a tract rich in figs, olives, apples, pomegranates and vines.' Dr. Leonhart Rauwolff of the Netherlands (1575), of Bethlehem: 'Beyond it in another valley not far from Bethlehem, there is a large orchard (Artas—a corruption of the Latin 'hortus') full of citron, lemon, oranges, pomegranates, fig trees. . . .' Moshe Poriat of Prague (1650), quoted by Yaari: 'In the Land they sweeten water (for drinking) with lemon juice or the juice of pomegranate.' M. I. Doubdan (1651), of Solomon's Pools: ' . . . there we find pomegranates and roses.' And of Jericho: 'Delectable for the beauty of its trees which are like verdant thickets of date palms, fig trees and olive trees, and other fruit trees, principally pomegranate trees all covered with their rich blooms.'

Eugène Roger (1663) is enthusiastic about the fruits of the Holy Land, especially

the fig, the lemon, the orange, the pomegranate, the apricot and the peach. Rabbi Gedalia of Semiatyez (1700), who settled in Israel with an early group of pietists, writes: 'And there are in Israel many fruits, such as grapes and pomegranates, olives, dates, peaches, lemons, oranges, walnuts big and small, almonds, carobs, and many other kinds of fruit of which the names I cannot mention because they are not to be found in European lands at all.' Of the pomegranates he says: 'Some of them are sweet and some are very sour, and some are a blend of the two, that is to say sweet-and-sour, and these are very good to refresh the spirit and they are also squeezed to produce a beverage. All the pomegranates are full of grains so that at times they burst open on the tree; and so our sages of blessed memory used to say 'full of good deeds like the pomegranate' and did not say it of other fruits' ('Travels in the Land of Israel,' by Yaari). Richard Pococke (1743), of Romani in Galilee: ' . . . probably so called from the pomegranates (Arabic 'ruman') that grow there.'

The botanist Frederick Hasselquist (1749, 1750, 1751, 1752) describes the gardens of Jaffa as 'full of pomegranates and figs which the monks have planted here.' Hasselquist is also an admirer of the pomegranates of Sidon, which were always renowned.

In the 19th Century, many visitors mention pomegranates: John Gadsby (1846), John Wilson (1847), J. A. Spencer (1850) and H. B. Tristram (1866) are among them; and other observers include Van-de-Velde (1851) and Hammar L. Dupuis (1856).



Fig. 12. "Wonderful" pomegranates in Israel.

W. M. Thompson (1857), discussing those of Hebron, says: 'There is a variety perfectly black on the outside. The general colour is dull green to yellow with a red blush; and there is a kind, very large and with a double bud that bears no fruit, but cultivated for its blossoms which appear profusely during the whole summer.' He speaks also of those of Jaffa as the very best, and of a variety to be found in Kafr Cana and in Shechem. Alphonse de Lamartine (1832), of Acre: 'Found there a grove of pomegranates, figs and mulberries. Of the Mount of Carmel: 'There are wild pomegranates.' Of Jaffa, that 'men recline under citrons and pomegranates.' The same is said by him of Jericho; and of Jaffa that 'the pomegranate trees there bear red stars,' a poetic fancy characteristic of him; but, as we see, he was practical-minded enough to record wild pomegranates growing in a thicket.

Rabbi David d'Beth Hillel (1824) says: 'Pomegranates are of three kinds, sweet, sour and sour-sweet. The last kind is called Loufani in Arabic, and some of them are extremely large and weigh an English pound.' And as to prices: 'The price for pomegranates is thirty piastres a kantar, as against five piastres for figs, ten for black grapes and eight for white grapes.'

Victor Guérin (1884) found many pomegranates in Jericho and praises the fruit trees in the neighbourhood of the Pools of Solomon: 'oranges, lemons, pomegranates, almonds, figs and pears.'

Dr. Lortet (1884) records pomegranates near Shechem and Artas, and stresses the export from Jaffa: 'oranges which are sought after because of their size and sweetness, and figs and pomegranates, raisins and other fruits. The entire export is destined for Egypt.'

Recent and Modern Times

In 1920, there were in the Holy Land close to 1,000 dunams (one dunam is one-tenth of a hectare) planted to pomegranates. In 1930, the figure was 1,500 dunams, yielding 600 tons of fruit. In 1948, when the British Mandate came to an end, it had risen to 3,000 dunams, of which 6% were in Jewish ownership.

With the establishment of Israel, the acreage diminished, because the new State was

much smaller than Mandated Palestine and because many groves had been neglected. In 1950, there were 1,850 dunams with a yield of 1,150 tons of fruit. Between 1950 and 1960, new orchards were planted, especially in the Beit She'an region; and by 1961 the area came to 4,000 dunams, with a yield of from 3,500 to 4,000 tons of fruit.

Today, so far as Jewish farming is concerned, the pomegranate is confined virtually to the villages in the Beisan Valley—Harod district. In the Arab sector, a large proportion of the groves are concentrated in the Nazareth hills. But even outside those two major zones, it is possible to find small plots in almost every other part of the country, for nearly everywhere the conditions of soil and climate favour this crop.

The principal varieties in the Jewish sector are: (a) Wonderful, a variety introduced from California; and (b) Red Loufani, a local strain. The two are very like one another in appearance and fruit. Both are late ripening, with a rather sour, wine-like taste, and of excellent quality. Their one disadvantage is that part of the fruit is apt to split open towards the time of ripening, a fault which was observed in antiquity.

In the Arab sector, the Malissi and the Ras el Baghl are cultivated in the main. They ripen early, about a month before the Wonderful and the Red Loufani; both are sweet and their taste insipid.

Yields to the dunam on unirrigated land are from three-quarters of a ton to a ton. On irrigated land, the figure is from two to three tons. And higher yields may be obtained with the aid of intensive irrigation (ten to twelve irrigations a season) totalling 1,200 cubic metres of water to the dunam.

The pomegranate is assailed by insect pests harmful to both tree and fruit. The tree is attacked by a trunk-boring beetle (the leopard-moth) which penetrates the branches and trunks; red-mite, which causes leaf-drop and various scales; the pomegranate butterfly (*Virachola livia* (Klug)), known in antiquity by the name of 'Ha Derimoni,' which perforates the fruit and causes it to rot. The pomegranate in Israel is not afflicted by plant diseases except for root-rot due to excess of water round the crown of the trees. The fruit itself is at times spoiled by



Fig. 13. Picking of pomegranates in Israel (1962).

blossom-end rot and, as mentioned, by splitting.

There is little point in planting large areas of pomegranate groves in Israel today, although it is agriculturally feasible in various districts, on different types of soil, and for irrigation with brackish water. The principal objection is that demand is limited by the bother of peeling and separating out the

seeds. When the pomegranate is in season, many other fruits, which the public prefers, are also in free supply although a good part of the harvest is locally used to make a fresh natural juice which is gaining popularity.

Possibilities of export are extremely restricted for the time being, and ways and means have yet to be devised of processing the by-products commercially.

